

2N4026 THROUGH 2N4029

PNP HIGH-VOLTAGE GENERAL PURPOSE AMPLIFIERS

SILICON PLANAR*II EPITAXIAL TRANSISTORS

FEATURES

- HIGH BETA -- 100-300 @ 100 mA
- HIGH VOLTAGE--60 AND 80 VOLTS V_{CE}
- LOW V_{CE} (SAT) -- 1.0 VOLT (MAX.) @ 1.0 A
- EXCELLENT BETA LINEARITY FROM 100 μ A TO 500 mA

ABSOLUTE MAXIMUM RATINGS [Note 1]

Maximum Temperatures

Storage Temperature
Operating Junction Temperature
Lead Temperature (Soldering, 60 sec time limit)

-65°C to +200°C
+200°C Maximum
+300°C Maximum

Maximum Power Dissipation

Total Dissipation at 25°C Case Temperature
at 25°C Free Air Temperature

[Notes 2 and 3]
[Notes 2 and 3]

2.0 Watts
0.5 Watt

Maximum Voltages

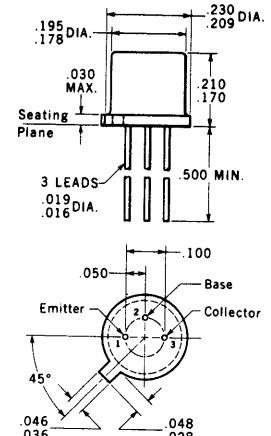
V_{CBO} Collector to Base Voltage
 V_{CEO} Collector to Emitter Voltage
 V_{EBO} Emitter to Base Voltage

[Note 4]

2N4026 2N4027
2N4028 2N4029
-60 Volts -80 Volts
-60 Volts -80 Volts
-5.0 Volts -5.0 Volts

PHYSICAL DIMENSIONS

in accordance with
JEDEC (TO-18) outline



NOTES: All dimensions in inches
Leads are gold-plated kovar
Gate internally connected to case
Package weight is 0.43 gram

ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)

SYMBOL	CHARACTERISTICS	2N4026 2N4027			2N4028 2N4029			UNITS	TEST CONDITIONS
		Min.	Typ.	Max.	Min.	Typ.	Max.		
h_{FE}	DC Pulse Current Gain [Note 5]	30	80		75	150			$I_C = 100 \mu A$ $V_{CE} = -5.0 V$
h_{FE}	DC Pulse Current Gain [Note 5]	40	80	120	100	160	300		$I_C = 100 mA$ $V_{CE} = -5.0 V$
h_{FE}	DC Pulse Current Gain [Note 5]	25	60		70	110			$I_C = 500 mA$ $V_{CE} = -5.0 V$
h_{FE}	DC Pulse Current Gain [Note 5]	15 (2N4026 only)			40 (2N4028 only)				$I_C = 1.0 A$ $V_{CE} = -5.0 V$
h_{FE}	DC Pulse Current Gain [Note 5]	10 (2N4027 only)			25 (2N4029 only)				$I_C = 1.0 A$ $V_{CE} = -5.0 V$
$h_{FE} (-55^\circ C)$	DC Pulse Current Gain [Note 5]	15	50		40	100			$I_C = 100 mA$ $V_{CE} = -5.0 V$
h_{fe}	High Frequency Current Gain ($f = 100 MHz$)	1.0	1.5	4.0	1.5	2.0	5.0		$I_C = 50 mA$ $V_{CE} = -10 V$
C_{obo}	Common-Base, Open-Circuit Output Capacitance		15	20		15	20	pF	$I_E = 0$ $V_{CB} = -10 V$
C_{ibo}	Common-Base, Open-Circuit Input Capacitance		75	110		75	110	pF	$I_C = 0$ $V_{EB} = -0.5 V$
t_{on}	Turn On Time [Note 6]		30	100		23	100	ns	$I_C \approx 500 mA$, $I_{B1} \approx 50 mA$
t_s	Storage Time [Note 6]		150	350		175	350	ns	$I_C \approx 500 mA$, $I_{B1} \approx 50 mA$, $I_{B2} \approx -50 mA$
t_f	Fall Time [Note 6]		25	50		22	50	ns	$I_C \approx 500 mA$, $I_{B1} \approx 50 mA$, $I_{B2} \approx -50 mA$

*Planar is a patented Fairchild Process.

FAIRCHILD
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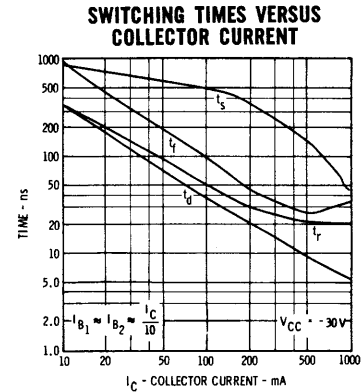
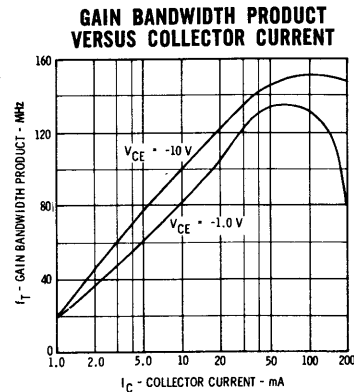
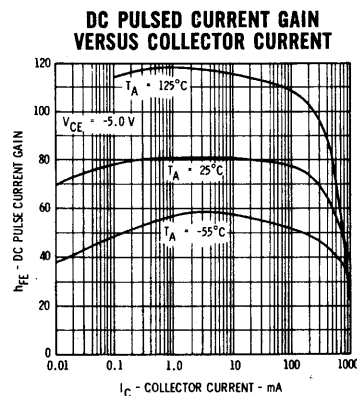
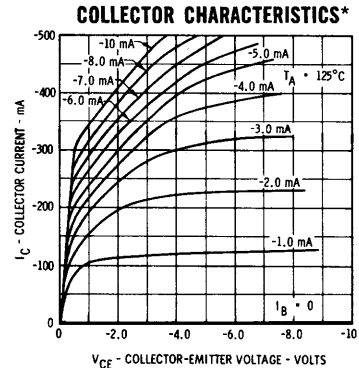
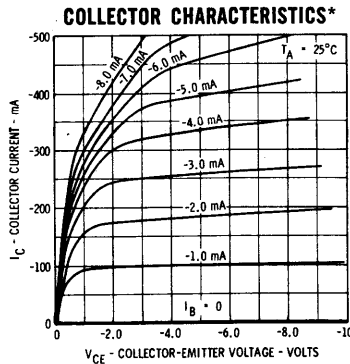
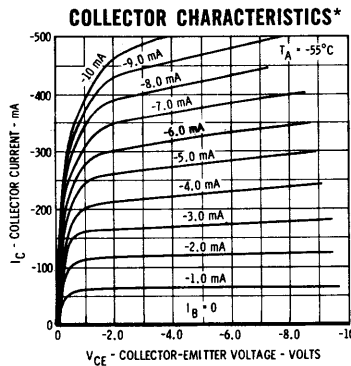
FAIRCHILD TRANSISTORS 2N4026 THROUGH 2N4029

ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)

SYMBOL	CHARACTERISTICS	2N4026 2N4028			2N4027 2N4029			Units	TEST CONDITIONS
		Min.	Typ.	Max.	Min.	Typ.	Max.		
$V_{CE(sat)}$	Collector Saturation Voltage [Note 5]	-0.1	-0.15		-0.1	-0.15		Volts	$I_C = 150 \text{ mA}$ $I_B = 15 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage [Note 5]	-0.25	-0.5		-0.25	-0.5		Volts	$I_C = 500 \text{ mA}$ $I_B = 50 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage [Note 5]	-0.5	-1.0					Volts	$I_C = 1000 \text{ mA}$ $I_B = 100 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage [Note 5]	-0.8	-0.9		-0.8	-0.9		Volts	$I_C = 150 \text{ mA}$ $I_B = 15 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage [Note 5]		-1.1		-0.95	-1.1		Volts	$I_C = 500 \text{ mA}$ $I_B = 50 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage [Note 5]	-1.05	-1.2					Volts	$I_C = 1000 \text{ mA}$ $I_B = 100 \text{ mA}$
BV_{CBO}	Collector to Base Breakdown Voltage	-60			-80			Volts	$I_E = 0$ $I_C = 10 \mu\text{A}$
BV_{EBO}	Emitter to Base Breakdown Voltage	-5.0			-5.0			Volts	$I_C = 0$ $I_E = 10 \mu\text{A}$
$V_{CEO(sust)}$	Collector to Emitter Sustaining Voltage [Notes 4 and 5]	-60			-80			Volts	$I_C = 10 \text{ mA}$ $I_B = 0$ (pulsed)
I_{CBO}	Collector Cutoff Current		0.2	50				nA	$I_E = 0$ $V_{CB} = -50 \text{ V}$
I_{CBO}	Collector Cutoff Current				0.2	50		nA	$I_E = 0$ $V_{CB} = -60 \text{ V}$
$I_{CBO(150^\circ\text{C})}$	Collector Cutoff Current		0.2	50				μA	$I_E = 0$ $V_{CB} = -50 \text{ V}$
$I_{CBO(150^\circ\text{C})}$	Collector Cutoff Current				0.25	50		μA	$I_E = 0$ $V_{CB} = -60 \text{ V}$

(See notes on back page)

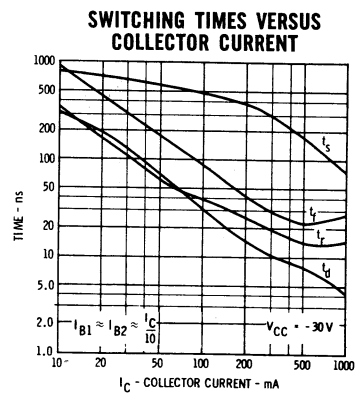
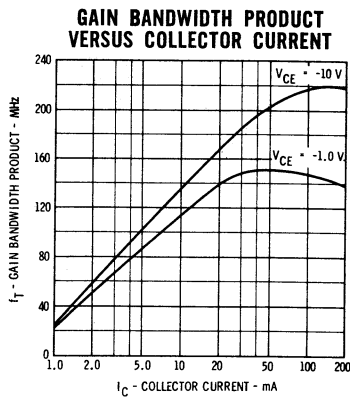
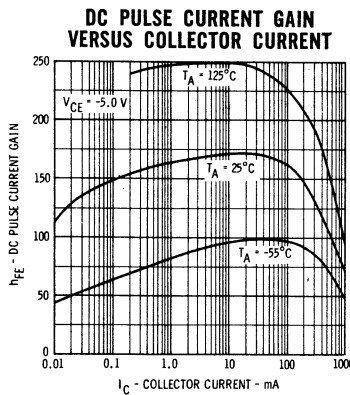
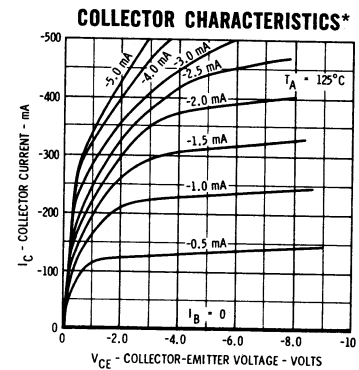
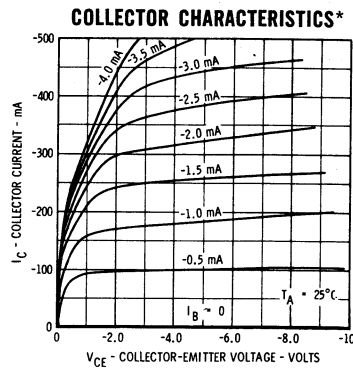
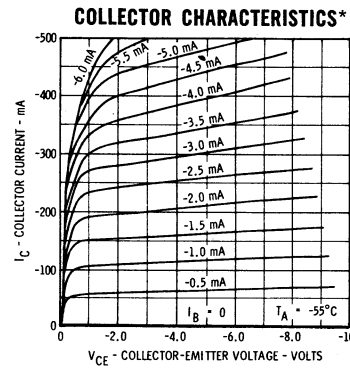
TYPICAL ELECTRICAL CHARACTERISTICS FOR 2N4026 AND 2N4027



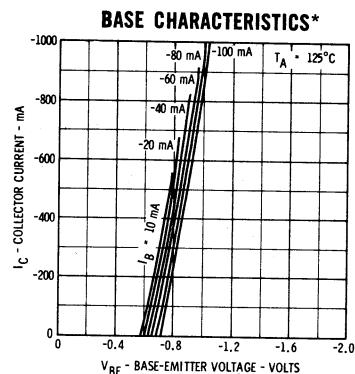
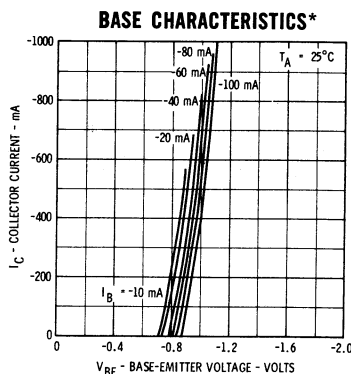
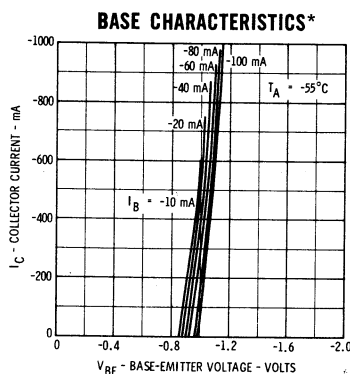
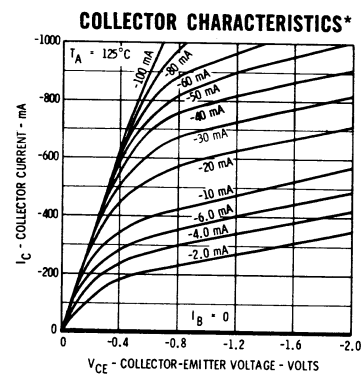
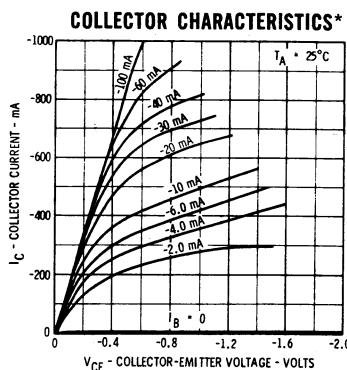
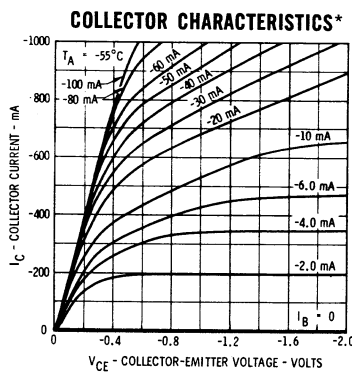
* Single family characteristic on Transistor Curve Tracer.

FAIRCHILD TRANSISTORS 2N4026 THROUGH 2N4029

TYPICAL ELECTRICAL CHARACTERISTICS FOR 2N4028 AND 2N4029



TYPICAL ELECTRICAL CHARACTERISTICS (All Types)

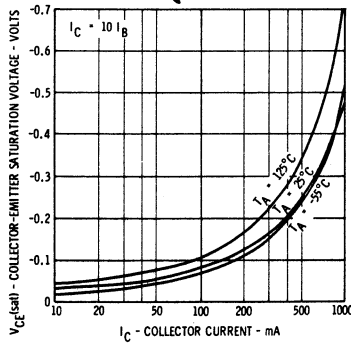


* Single family characteristic on Transistor Curve Tracer.

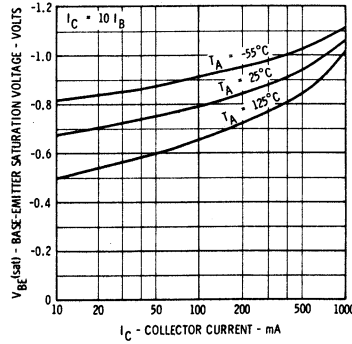
FAIRCHILD TRANSISTORS 2N4026 THROUGH 2N4029

TYPICAL ELECTRICAL CHARACTERISTICS (All Types)

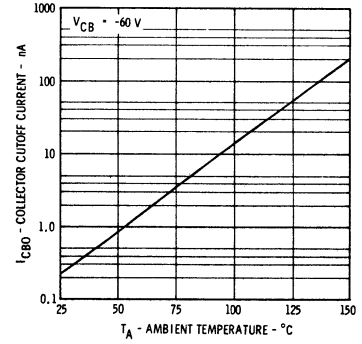
COLLECTOR-EMITTER SATURATION VOLTAGE VERSUS COLLECTOR CURRENT



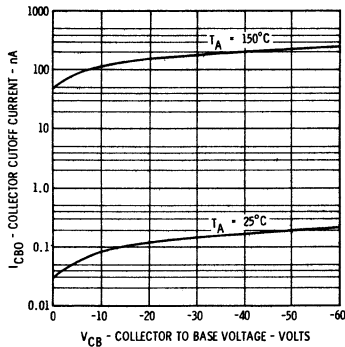
BASE-EMITTER SATURATION VOLTAGE VERSUS COLLECTOR CURRENT



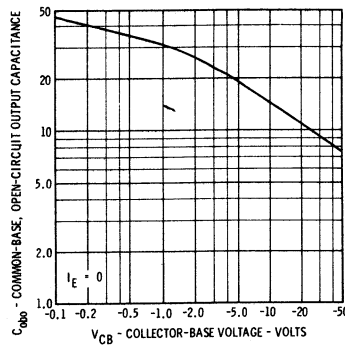
COLLECTOR CUTOFF CURRENT VERSUS AMBIENT TEMPERATURE



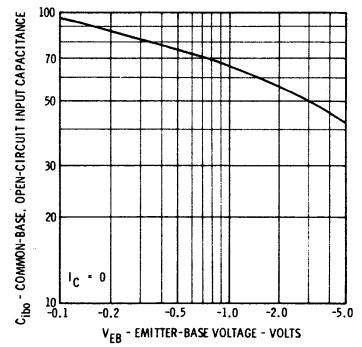
COLLECTOR CUTOFF CURRENT VERSUS REVERSE BIAS VOLTAGE



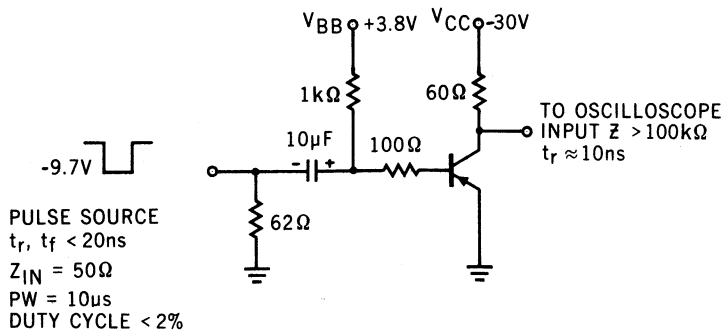
COMMON BASE OPEN CIRCUIT OUTPUT CAPACITANCE VERSUS REVERSE BIAS VOLTAGE



COMMON BASE OPEN CIRCUIT INPUT CAPACITANCE VERSUS REVERSE BIAS VOLTAGE



T_{on} AND T_{off} TEST CIRCUIT



NOTES:

- (1) These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
- (2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- (3) These ratings give a maximum junction temperature of 200°C and junction-to-case thermal resistance of 87.5°C/Watt (derating factor of 11.4 mW/°C); junction-to-ambient thermal resistance of 350°C/Watt (derating factor of 2.85 mW/°C).
- (4) Rating refers to a high-current point where collector-to-emitter voltage is lowest.
- (5) Pulse Conditions: length = 300 μs; duty cycle = 1%.
- (6) See switching circuit for exact values of I_C , I_{B1} , and I_{B2} .

2N4034 • 2N4035

PNP HIGH-SPEED SWITCH AND RF AMPLIFIER

DIFFUSED SILICON PLANAR EPITAXIAL TRANSISTOR

GENERAL DESCRIPTION - The 2N4034 and 2N4035 are High-Gain Silicon PNP Transistors suitable for a wide range of applications including fast high-voltage switching, low noise, low-current requirements, and high-gain RF applications. Key performance parameters are: typical maximum available gain of 27 db at 100 Mc, low- and high-frequency noise figures of 3.5 db, and turn-on and turn-off times of 40 and 150 nsec respectively.

ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures	
Storage Temperature	-65°C to +200°C
Operating Junction Temperature	200°C
Lead Temperature (Soldering, 60 sec Time Limit)	300°C
Maximum Power Dissipation	
Total Dissipation at 25°C Case Temperature	(Notes 2 and 3) 1.0 Watt
at 25°C Ambient Temperature	(Notes 2 and 3) 0.36 Watt
Maximum Voltages and Current	
V _{CB0} Collector to Base Voltage	-40 Volts
V _{CEO} Collector to Emitter Voltage	(Note 4) -40 Volts
V _{EBO} Emitter to Base Voltage	-5.0 Volts
I _C Collector Current	100 mA

ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)

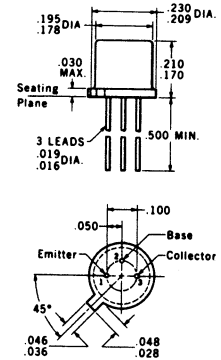
Symbol	Characteristic	2N4034			2N4035			Units	Test Conditions
		Min.	Typ.	Max.	Min.	Typ.	Max.		
h _{FE}	DC Current Gain	20	50		70	100			I _C = 10 μA V _{CE} = -1.0 V
h _{FE}	DC Current Gain	50	90		140	180			I _C = 100 μA V _{CE} = -1.0 V
h _{FE}	DC Pulse Current Gain (Note 5)	70	150	200	150	200	300		I _C = 10 mA V _{CE} = -1.0 V
h _{FE}	DC Pulse Current Gain (Note 5)	15	30		30	60			I _C = 50 mA V _{CE} = -1.0 V
V _{CE(sat)}	Collector Saturation Voltage (pulsed, Note 5)		-0.2	-0.3		-0.2	-0.3	Volts	I _C = 50 mA I _B = 5.0 mA
V _{CE(sat)}	Collector Saturation Voltage (pulsed, Note 5)		-0.1	-0.14		-0.1	-0.14	Volts	I _C = 10 mA I _B = 1.0 mA
V _{BE(sat)}	Base Saturation Voltage	-0.7	-0.77	-0.9	-0.7	-0.77	-0.9	Volts	I _C = 10 mA I _B = 1.0 mA
V _{CEO(sust)}	Collector Emitter Sustaining Voltage (Notes 4 and 5)	-40			-40			Volts	I _C = 10 mA I _B = 0 (pulsed)
h _{fe}	High Frequency Current Gain (f = 100 Mc)	4.0	5.5		4.5	6.0			I _C = 10 mA V _{CE} = -20 V
C _{obo}	Output Capacitance		2.2	3.5		2.2	3.5	pf	I _E = 0 V _{CB} = -10 V
C _{ibo}	Input Capacitance		4.0	5.5		4.0	5.5	pf	I _C = 0 V _{EB} = -0.5 V
NF	Noise Figure (f = 100 Mc)		3.5	6.0		3.5	6.0	db	I _C = 1.0 mA V _{CE} = -5.0 V
r _{b'c}	Collector Base Time Constant (f = 80 Mc)			40			40	psec	R _S = 100 Ω BW = 15 Mc
t _{on}	Turn On Time (Note 6)		20	40		20	40	nsec	I _C = 10 mA V _{CE} = -20 V
t _{off}	Turn Off Time (Note 6)		95	150		95	150	nsec	I _C ≈ 50 mA, I _{B1} ≈ 5.0 mA
									I _C ≈ 50 mA, I _{B1} ≈ I _{B2} ≈ 5.0 mA

NOTES:

- (1) These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
- (2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- (3) These ratings give a maximum junction temperature of 200°C and junction-to-case thermal resistance of 175°C/Watt (derating factor of 5.71 mW/°C); junction-to-ambient thermal resistance of 500°C/Watt (derating factor of 2.06 mW/°C).
- (4) This rating refers to a high-current point where collector-to-emitter voltage is lowest.
- (5) Pulse Conditions: length = 300 μsec; duty cycle = 1%.
- (6) See switching circuit for exact values of I_C, I_{B1} and I_{B2}.

PHYSICAL DIMENSIONS

in accordance with
JEDEC (TO-18) outline



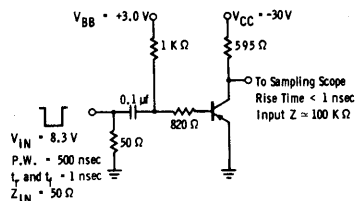
NOTES: All dimensions in inches
Leads are gold plated hollow
Collector internally connected to case
Package weight is 0.43 gram

FAIRCHILD TRANSISTORS 2N4034 • 2N4035

ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)

Symbol	Characteristic	2N4034			2N4035			Units	Test Conditions
		Min.	Typ.	Max.	Min.	Typ.	Max.		
h_{FE}	DC Current Gain	60	100		150	200			$I_C = 1.0 \text{ mA}$ $V_{CE} = -1.0 \text{ V}$
$h_{FE}(-55^\circ\text{C})$	Pulse Current Gain (Note 5)	30	60		70	100			$I_C = 10 \text{ mA}$ $V_{CE} = -1.0 \text{ V}$
$V_{CE}(\text{sat})$	Collector Saturation Voltage	-0.07	-0.13		-0.07	-0.13		Volts	$I_C = 1.0 \text{ mA}$ $I_B = 0.1 \text{ mA}$
$V_{BE}(\text{sat})$	Base Saturation Voltage (pulsed, Note 5)	-0.88	-1.1		-0.88	-1.1		Volts	$I_C = 50 \text{ mA}$ $I_B = 5.0 \text{ mA}$
$V_{BE}(\text{sat})$	Base Saturation Voltage	-0.65	-0.75		-0.65	-0.75		Volts	$I_C = 1.0 \text{ mA}$ $I_B = 0.1 \text{ mA}$
I_{CES}	Collector Reverse Current		15			15		nA	$V_{CE} = -30 \text{ V}$ $V_{BE} = 0$
$I_{CES}(+125^\circ\text{C})$	Collector Reverse Current		15			15		μA	$V_{CE} = -30 \text{ V}$ $V_{BE} = 0$
BV_{CBO}	Collector to Base Breakdown Voltage	-40			-40			Volts	$I_C = 10 \text{ }\mu\text{A}$ $I_E = 0$
BV_{CES}	Collector to Emitter Breakdown Voltage	-40			-40			Volts	$I_C = 10 \text{ }\mu\text{A}$ $V_{BE} = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	-5.0			-5.0			Volts	$I_C = 0$ $I_E = 10 \text{ }\mu\text{A}$

SWITCHING TIME TEST CIRCUIT



SMALL SIGNAL CHARACTERISTICS ($f = 1 \text{ Kc}$)

Symbol	Characteristic	2N4034		2N4035		Units	Test Conditions
		Min.	Max.	Min.	Max.		
h_{ie}	Input Resistance	1.0	8.0	4.0	12	K Ω	$I_C = 1.0 \text{ mA}$ $V_{CE} = 10 \text{ V}$
h_{oe}	Output Conductance	2.0	24	8.0	40	μmho	$I_C = 1.0 \text{ mA}$ $V_{CE} = 10 \text{ V}$
h_{re}	Voltage Feedback Ratio		3.0		4.0	$\times 10^{-4}$	$I_C = 1.0 \text{ mA}$ $V_{CE} = 10 \text{ V}$
h_{fe}	Forward Current Transfer Ratio	50	300	150	450		$I_C = 1.0 \text{ mA}$ $V_{CE} = 10 \text{ V}$

2N4046 • 2N4047

NPN HIGH-VOLTAGE, HIGH-CURRENT SWITCHES

SILICON PLANAR* EPITAXIAL TRANSISTORS

- HIGH SPEED $t_{on} = 35 \text{ ns (MAX) AT } 500 \text{ mA}$
 $t_{off} = 65 \text{ ns (MAX) AT } 500 \text{ mA}$
- HIGH VOLTAGE $V_{CEO} = 30 \text{ V (MIN) (2N4046) OR } 50 \text{ V (MIN) (2N4047)}$
- HIGH GAIN $h_{FE} = 30 \text{ (MIN) AT } 500 \text{ mA, } 1.0 \text{ V}$
 $h_{FE} = 25 \text{ (MIN) AT } 1.0, 5.0 \text{ V}$
- LOW SATURATION VOLTAGE $V_{CE(sat)} = 0.65 \text{ V (MAX) AT } 800 \text{ mA}$
 $V_{CE(sat)} = 0.75 \text{ V (MAX) AT } 1.0A$

ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures

Storage Temperature

Operating Junction Temperature

Lead Temperature (Soldering, 60 second time limit)

-65°C to +200°C

+200°C Maximum

+300°C Maximum

Maximum Power Dissipation (Notes 2 and 3)

Total Dissipation at 25°C Case Temperature

at 25°C Ambient Temperature

3.5 Watts

0.8 Watt

Maximum Voltages and Current

2N4046

2N4047

V_{CBO} Collector to Base Voltage

50 Volts

80 Volts

V_{CES} Collector to Emitter Voltage

50 Volts

80 Volts

V_{CEO} Collector to Emitter Voltage (Note 4)

30 Volts

50 Volts

V_{EBO} Emitter to Base Voltage

6.0 Volts

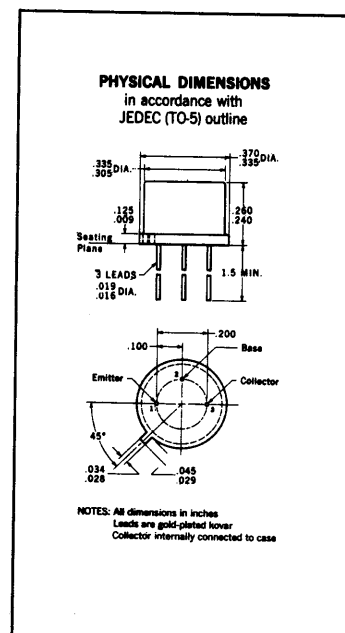
6.0 Volts

I_C DC Collector Current

500 mA

500 mA

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

**ELECTRICAL CHARACTERISTICS** (25° C Free Air Temperature unless otherwise noted)

SYMBOL	CHARACTERISTICS	2N4046			2N4047			UNITS	TEST CONDITIONS
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
$V_{CEO(sust)}$	Collector to Emitter Sustaining Voltage	30			50			Volts	$I_C = 10 \text{ mA (pulsed)}$ $I_B = 0$
$V_{CE(sat)}$	Collector Saturation Voltage (Note 5)	0.5	0.75		0.6	0.95		Volts	$I_C = 1000 \text{ mA (pulsed)}$ $I_B = 100 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage (Note 5)	0.3	0.42		0.4	0.52		Volts	$I_C = 500 \text{ mA (pulsed)}$ $I_B = 50 \text{ mA}$
t_{on}	Turn-on Time (Note 6)	18	35		18	35		ns	$I_C \approx 500 \text{ mA}$ $I_{B1} \approx 50 \text{ mA}$
t_{off}	Turn-off Time (Note 6)	45	60		45	60		ns	$I_C \approx 500 \text{ mA}$ $I_{B1} \approx 50 \text{ mA}$ $I_{B2} \approx -50 \text{ mA}$
h_{fe}	High Frequency Current Gain ($f = 100 \text{ MHz}$)	2.5	4.5		2.5	4.5			$I_C = 50 \text{ mA}$ $V_{CE} = 10 \text{ V}$
C_{obo}	Common Base, Open Circuit Output Capacitance	6.0	12		4.8	10		pF	$I_E = 0$ $V_{CB} = 10 \text{ V}$
C_{ibo}	Common Base, Open Circuit Input Capacitance	40	55		40	55		pF	$I_C = 0$ $V_{EB} = 0.5 \text{ V}$

*Planar is a patented Fairchild process.

313 FAIRCHILD DRIVE, MOUNTAIN VIEW, CALIFORNIA, (415) 962-5011, TWX: 910-379-6435

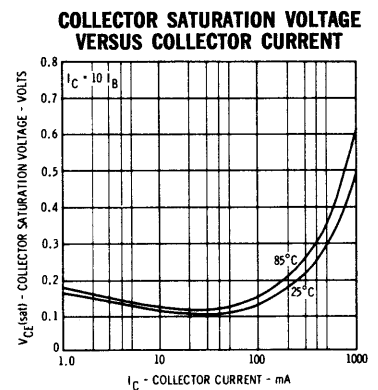
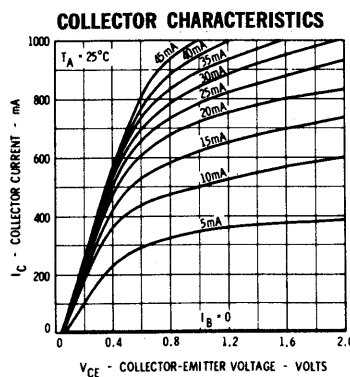
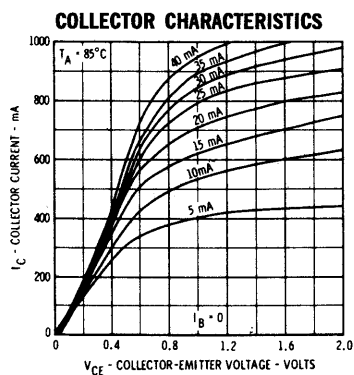
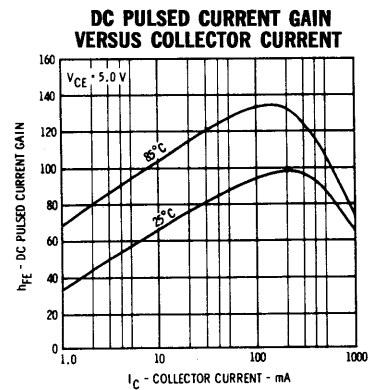
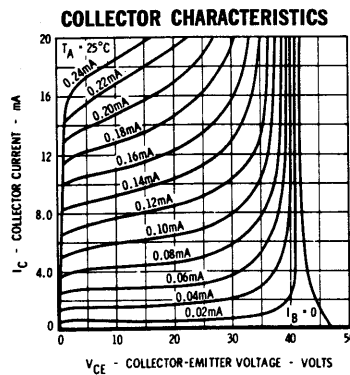
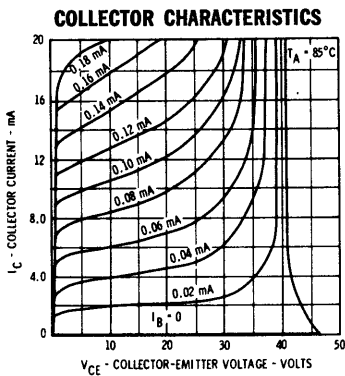
FAIRCHILD
SEMICONDUCTOR
A DIVISION OF FAIRCHILD CAMERA AND INSTRUMENT CORPORATION

FAIRCHILD TRANSISTORS 2N4046 • 2N4047

ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)

SYMBOL	CHARACTERISTICS	2N4046			2N4047			UNITS	TEST CONDITIONS
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
h_{FE}	DC Pulse Current Gain (Note 5)	40	90	150	40	90	150		$I_C = 100 \text{ mA}$ $V_{CE} = 1.0 \text{ V}$
h_{FE}	DC Pulse Current Gain (Note 5)	30	50		20	45			$I_C = 500 \text{ mA}$ $V_{CE} = 1.0 \text{ V}$
h_{FE}	DC Pulse Current Gain (Note 5)	30	65		30	60			$I_C = 300 \text{ mA}$ $V_{CE} = 1.0 \text{ V}$
h_{FE}	DC Pulse Current Gain (Note 5)	25	65		15	65			$I_C = 1000 \text{ mA}$ $V_{CE} = 5.0 \text{ V}$
h_{FE}	DC Pulse Current Gain (Note 5)	20	60		20	60			$I_C = 10 \text{ mA}$ $V_{CE} = 1.0 \text{ V}$
h_{FE}	DC Pulse Current Gain (Note 5)	20	45		15	40			$I_C = 800 \text{ mA}$ $V_{CE} = 2.0 \text{ V}$
$V_{CE(sat)}$	Collector Saturation Voltage (Note 5)		0.11	0.25		0.19	0.25	Volts	$I_C = 10 \text{ mA}$ $I_B = 1.0 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage (Note 5)		0.13	0.2		0.21	0.26	Volts	$I_C = 100 \text{ mA}$ $I_B = 10 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage (Note 5)		0.22	0.32		0.31	0.4	Volts	$I_C = 300 \text{ mA}$ $I_B = 30 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage (Note 5)		0.4	0.65		0.5	0.8	Volts	$I_C = 800 \text{ mA}$ $I_B = 80 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage (Note 5)		0.64	0.76		0.64	0.76	Volts	$I_C = 10 \text{ mA}$ $I_B = 1.0 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage (Note 5)		0.75	0.86		0.75	0.86	Volts	$I_C = 100 \text{ mA}$ $I_B = 10 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage (Note 5)		0.89	1.1		0.89	1.1	Volts	$I_C = 300 \text{ mA}$ $I_B = 30 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage (Note 5)	0.9	0.95	1.2	0.9	0.95	1.2	Volts	$I_C = 500 \text{ mA}$ $I_B = 50 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage (Note 5)		1.0	1.5		1.0	1.5	Volts	$I_C = 800 \text{ mA}$ $I_B = 80 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage (Note 5)		1.1	1.7		1.1	1.7	Volts	$I_C = 1000 \text{ mA}$ $I_B = 100 \text{ mA}$
I_{CBO}	Collector Cutoff Current		0.25	1.7				μA	$I_E = 0$ $V_{CB} = 40 \text{ V}$
I_{CBO}	Collector Cutoff Current					0.33	1.7	μA	$I_E = 0$ $V_{CB} = 60 \text{ V}$
$I_{CBO}(+85^\circ\text{C})$	Collector Cutoff Current		25	120				μA	$I_E = 0$ $V_{CB} = 40 \text{ V}$
$I_{CBO}(+85^\circ\text{C})$	Collector Cutoff Current					25	120	μA	$I_E = 0$ $V_{CB} = 60 \text{ V}$
BV_{CBO}	Collector to Base Breakdown Voltage	50			80			Volts	$I_C = 10 \mu\text{A}$ $I_E = 0$
BV_{CES}	Collector to Emitter Breakdown Voltage	50			80			Volts	$I_C = 10 \mu\text{A}$ $V_{BE} = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	6.0			6.0			Volts	$I_C = 0$ $I_E = 10 \mu\text{A}$

TYPICAL ELECTRICAL CHARACTERISTICS 2N4046

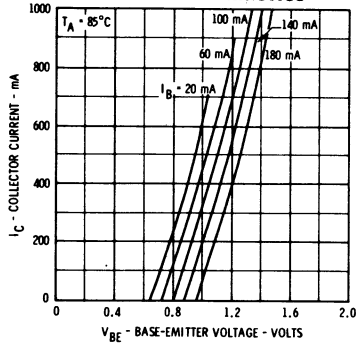


FAIRCHILD TRANSISTORS 2N4046 • 2N4047

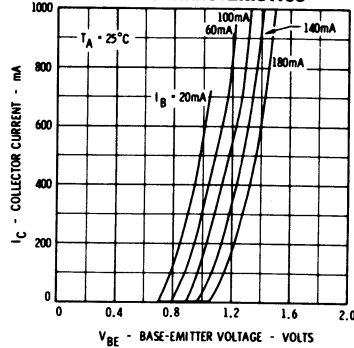
TYPICAL ELECTRICAL CHARACTERISTICS

2N4046 • 2N4047

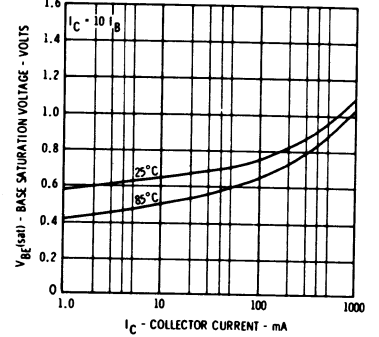
BASE CHARACTERISTICS



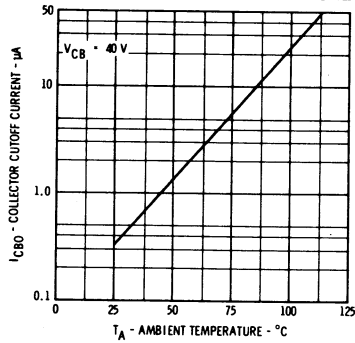
BASE CHARACTERISTICS



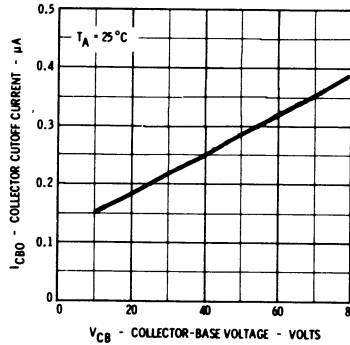
BASE SATURATION VOLTAGE VERSUS COLLECTOR CURRENT



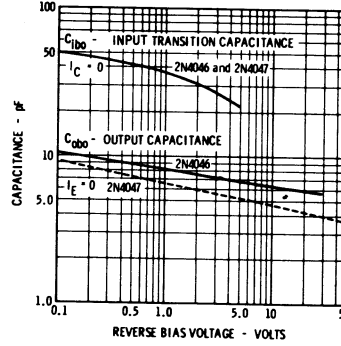
COLLECTOR CUTOFF CURRENT VERSUS AMBIENT TEMPERATURE



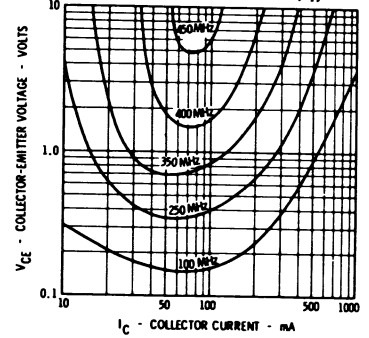
COLLECTOR CUTOFF CURRENT VERSUS REVERSE BIAS VOLTAGE



INPUT AND OUTPUT CAPACITANCE VERSUS REVERSE BIAS VOLTAGE

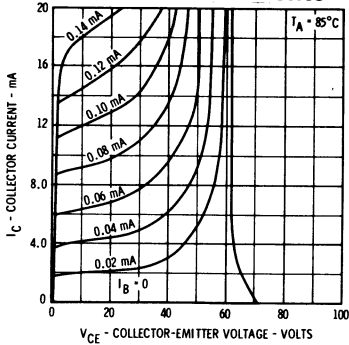


CONTOURS OF CONSTANT BANDWIDTH PRODUCT (fT)

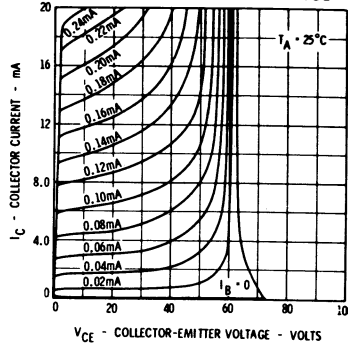


2N4047

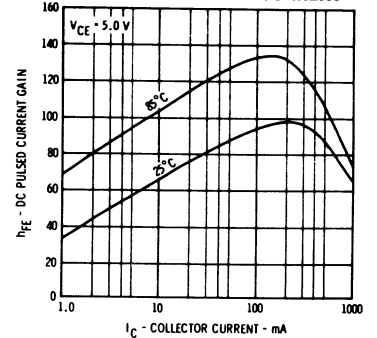
COLLECTOR CHARACTERISTICS



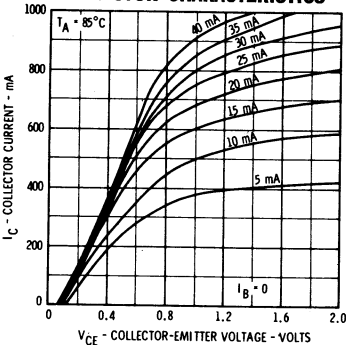
COLLECTOR CHARACTERISTICS



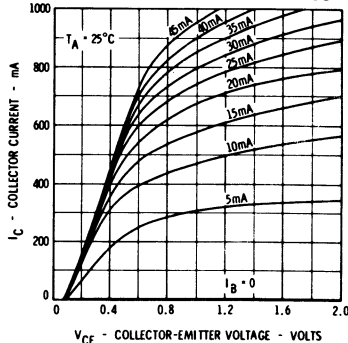
DC PULSED CURRENT GAIN VERSUS COLLECTOR CURRENT



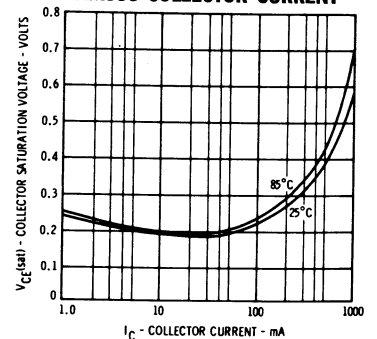
COLLECTOR CHARACTERISTICS



COLLECTOR CHARACTERISTICS



COLLECTOR SATURATION VOLTAGE VERSUS COLLECTOR CURRENT

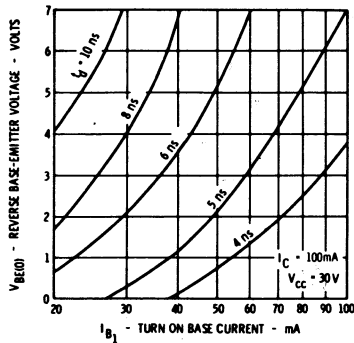


FAIRCHILD TRANSISTORS 2N4046 • 2N4047

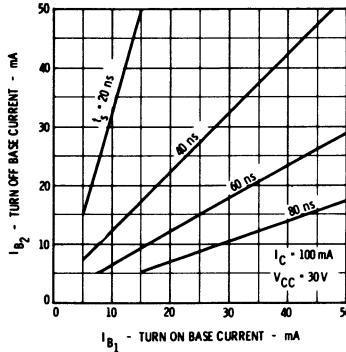
TYPICAL ELECTRICAL CHARACTERISTICS

2N4046 • 2N4047

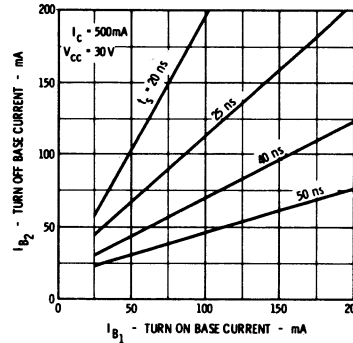
DELAY TIME VERSUS TURN ON BASE CURRENT AND REVERSE BASE-EMITTER VOLTAGE



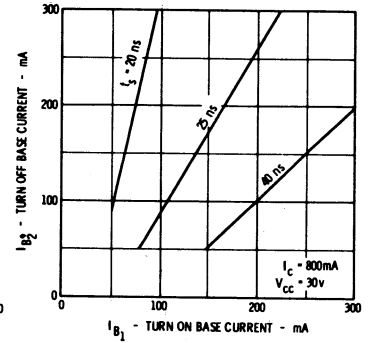
STORAGE TIME VERSUS TURN ON AND TURN OFF BASE CURRENTS



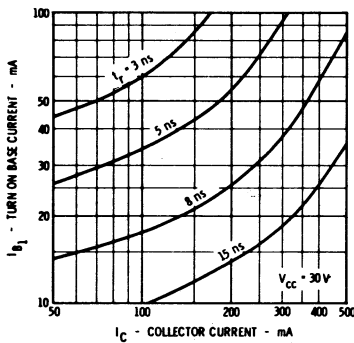
STORAGE TIME VERSUS TURN ON AND TURN OFF BASE CURRENTS



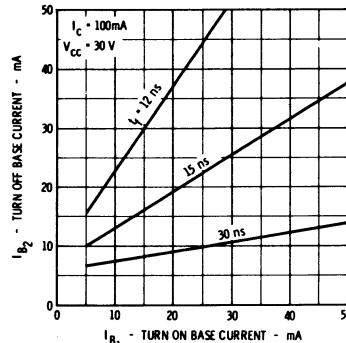
STORAGE TIME VERSUS TURN ON AND TURN OFF BASE CURRENTS



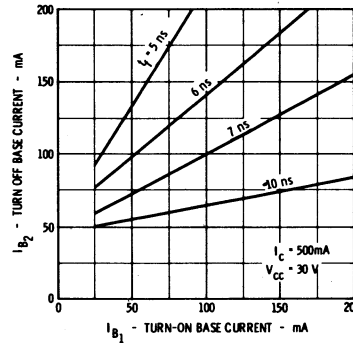
RISE TIME VERSUS COLLECTOR AND TURN ON BASE CURRENTS



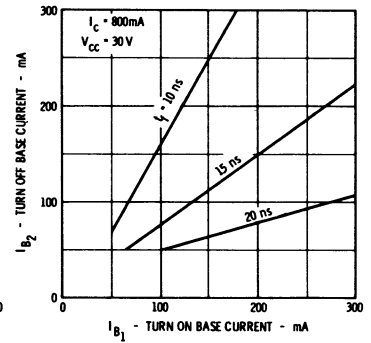
FALL TIME VERSUS TURN ON AND TURN OFF BASE CURRENTS



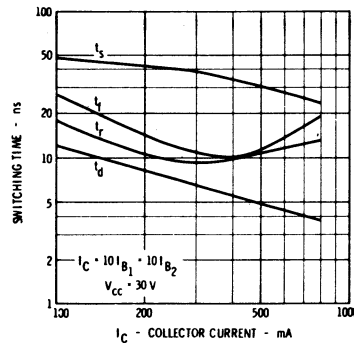
FALL TIME VERSUS TURN ON AND TURN OFF BASE CURRENTS



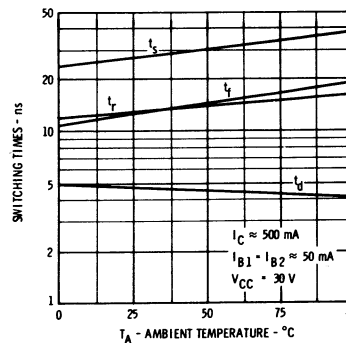
FALL TIME VERSUS TURN ON AND TURN OFF BASE CURRENTS



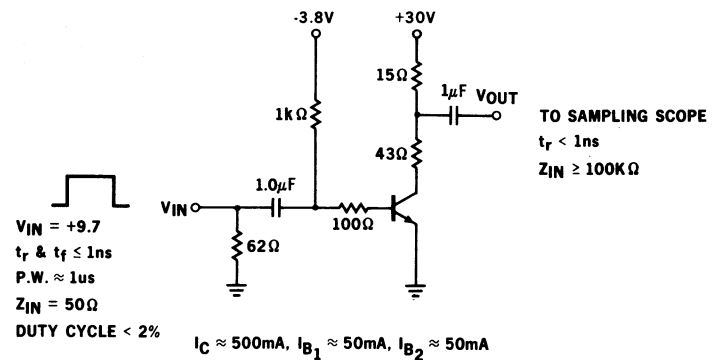
SWITCHING TIMES VERSUS COLLECTOR CURRENT



SWITCHING TIMES VERSUS AMBIENT TEMPERATURE



SWITCHING TIME TEST CIRCUIT



NOTES:

- (1) These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
- (2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- (3) These ratings give a maximum junction temperature of 200°C and junction to case thermal resistance of 50°C/Watt (derating factor of 20 mW/°C). Junction to ambient thermal resistance of 219°C/Watt (derating factor of 4.56 mW/°C).
- (4) Ratings refer to a high-current point where collector to emitter voltage is lowest.
- (5) Pulse Conditions: length = 300 μs; duty cycle = 1%.
- (6) See switching circuit for exact value of I_C , I_{B1} , and I_{B2} .

2N4075 • 2N4076

NPN HIGH-POWER, HIGH-VOLTAGE TYPE

DIFFUSED SILICON PLANAR EPITAXIAL TRANSISTORS

- HIGH BREAKDOWN -- 80 VOLT V_{CE0}
- MAXIMUM COLLECTOR CURRENT -- 3.0 AMPS.
- SECONDARY BREAKDOWN RATING -- 17 WATTS @ $T_c = 100^\circ\text{C}$
- ISOLATED COLLECTOR -- NO INSULATING HARDWARE REQUIRED
- HIGH FREQUENCY -- $f_T = 30$ Mc Min.
- WIDE BETA SPECIFICATION -- FROM 100 mA TO 2.0 AMPS.
- LOW V_{CE} (sat) -- 1.0 V Max. @ 2.0 AMPS.

ABSOLUTE MAXIMUM RATINGS [Note 1]

Maximum Temperatures

Storage Temperature	-65°C to $+200^\circ\text{C}$
Operating Junction Temperature	-65°C to $+200^\circ\text{C}$
Lead Temperature (Soldering, 60 sec time limit)	$+300^\circ\text{C}$ Maximum

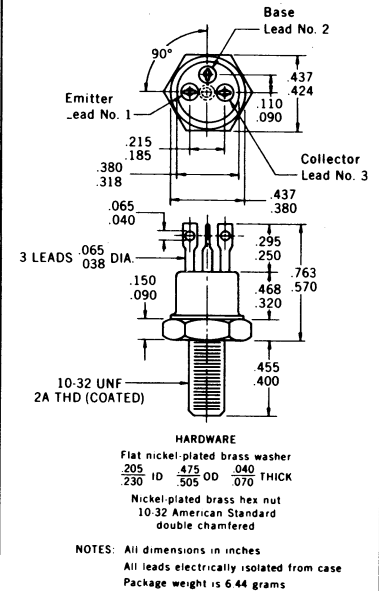
Maximum Power Dissipation

Total Dissipation at 25°C Case Temperature [Notes 2 and 3]	30 Watts
at 100°C Case Temperature [Notes 2 and 3]	17 Watts

Maximum Voltages and Current

V_{CBO} Collector to Base Voltage	100 Volts
V_{CEO} Collector to Emitter Voltage [Note 4]	80 Volts
V_{EBO} Emitter to Base Voltage	5.0 Volts
I_C Collector Current	3.0 Amps

PHYSICAL DIMENSIONS



ELECTRICAL CHARACTERISTICS (25°C Case Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	2N4076			2N4075			Units	TEST CONDITIONS
		Min.	Typ.	Max.	Min.	Typ.	Max.		
* h_{FE}	DC Pulse Current Gain [Note 5]	50	80	150	30	55	90		$I_C = 1.0$ A $V_{CE} = 2.0$ V
h_{FE}	DC Pulse Current Gain [Note 5]	40	75		25	50			$I_C = 2.0$ A $V_{CE} = 5.0$ V
h_{FE}	DC Pulse Current Gain [Note 5]	35	80		20	55			$I_C = 100$ mA $V_{CE} = 2.0$ V
V_{CE} (sat)	Collector Saturation Voltage [pulsed, Note 5]		0.2	0.5		0.2	0.5	Volts	$I_C = 1.0$ A $I_B = 0.1$ A
* V_{CE} (sat)	Collector Saturation Voltage [pulsed, Note 5]		0.35	1.0		0.35	1.0	Volts	$I_C = 2.0$ A $I_B = 0.2$ A
V_{BE} (sat)	Base Saturation Voltage [pulsed, Note 5]		1.0	1.3		1.0	1.3	Volts	$I_C = 1.0$ A $I_B = 0.1$ A
* V_{BE} (sat)	Base Saturation Voltage [pulsed, Note 5]		1.1	1.8		1.1	1.8	Volts	$I_C = 2.0$ A $I_B = 0.2$ A
V_{CEO} (sust)	Collector to Emitter Sustaining Voltage [Notes 4 and 5]	80			80			Volts	$I_C = 100$ mA $I_B = 0$ (pulsed)
* I_{CEX}	Collector Cutoff Current		2.0	100		2.0	100	nA	$V_{CE} = 60$ V $V_{BE} = -2.0$ V
I_{CEX} (150°C)	Collector Cutoff Current		7.0	100		7.0	100	μA	$V_{CE} = 60$ V $V_{BE} = -2.0$ V
I_{CEO}	Collector Cutoff Current		1.0	50		1.0	50	μA	$V_{CE} = 60$ V $I_B = 0$
h_{fe}	Small Signal Current Gain ($f = 1.0$ kc)	50	90	350	30	65	250		$V_{CE} = 10$ V $I_C = 50$ mA
h_{fe}	High Frequency Current Gain ($f = 20$ Mc)	1.5	2.5		1.5	2.3			$V_{CE} = 10$ V $I_C = 200$ mA

Additional Electrical Characteristics on page 2
 Notes on page 2

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FAIRCHILD TRANSISTORS 2N4075 • 2N4076

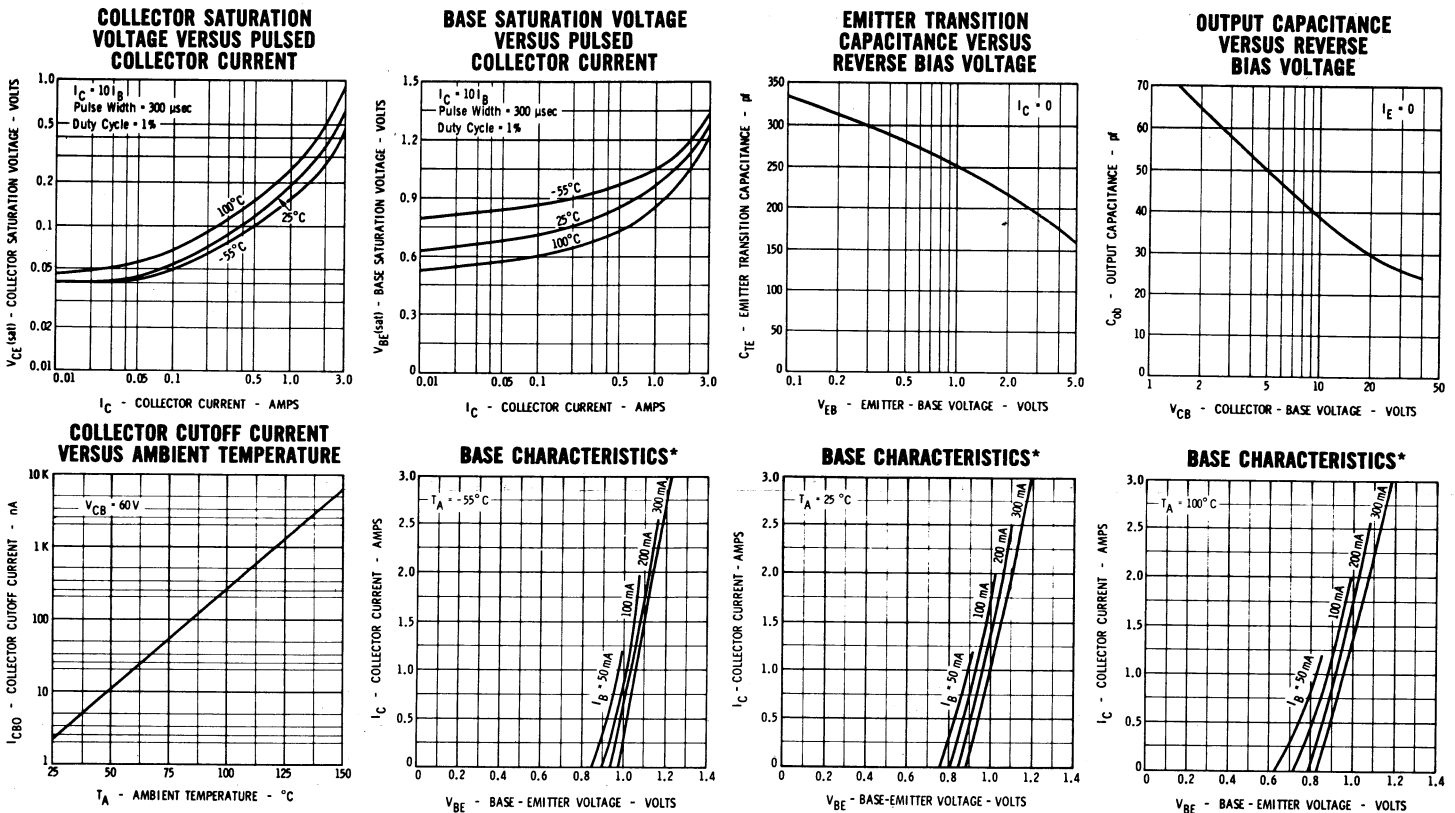
ELECTRICAL CHARACTERISTICS (25°C Case Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	2N4076			2N4075			Units	TEST CONDITIONS
		Min.	Typ.	Max.	Min.	Typ.	Max.		
BV_{CBO}	Collector to Base Breakdown Voltage	100			100			Volts	$I_C = 100 \mu A$ $I_E = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	5.0			5.0			Volts	$I_E = 10 \mu A$ $I_C = 0$
t_{on}	Turn On Time [Note 6]			0.3			0.3	μsec	$I_C = 1.0 A$ $I_{B1} \approx 50 mA$
t_{off}	Turn Off Time [Note 6]			1.5			1.5	μsec	$I_C = 1.0 A$ $I_{B1} \approx 50 mA$
C_{obo}	Open Circuit Output Capacitance			70			70	pf	$I_E = 0$ $V_{CB} = 10 V$

NOTES:

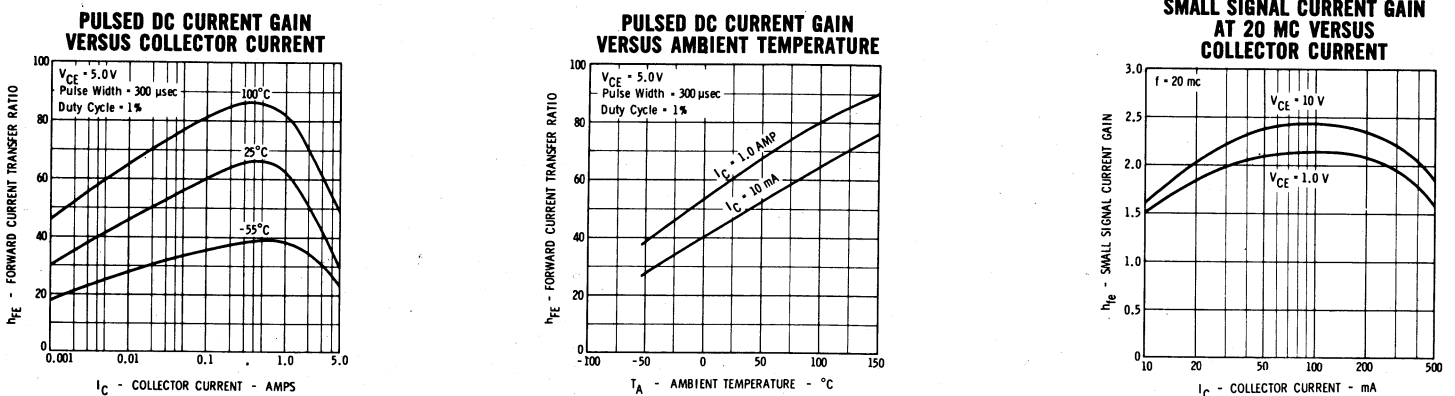
- These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- These ratings give a maximum junction temperature of 200°C and junction-to-case thermal resistance of 5.83°C/Watt. See power curves for derating characteristics.
- These ratings refer to a high-current point where collector-to-emitter voltage is lowest. For more information send for Fairchild Publication APP-4.
- Pulse conditions: length = 300 μsec ; duty cycle = 1%.
- See switching circuit for exact I_{B1} and I_{B2} values.

TYPICAL ELECTRICAL CHARACTERISTICS FOR 2N4075 AND 2N4076



* Single family characteristic on Transistor Curve Tracer.

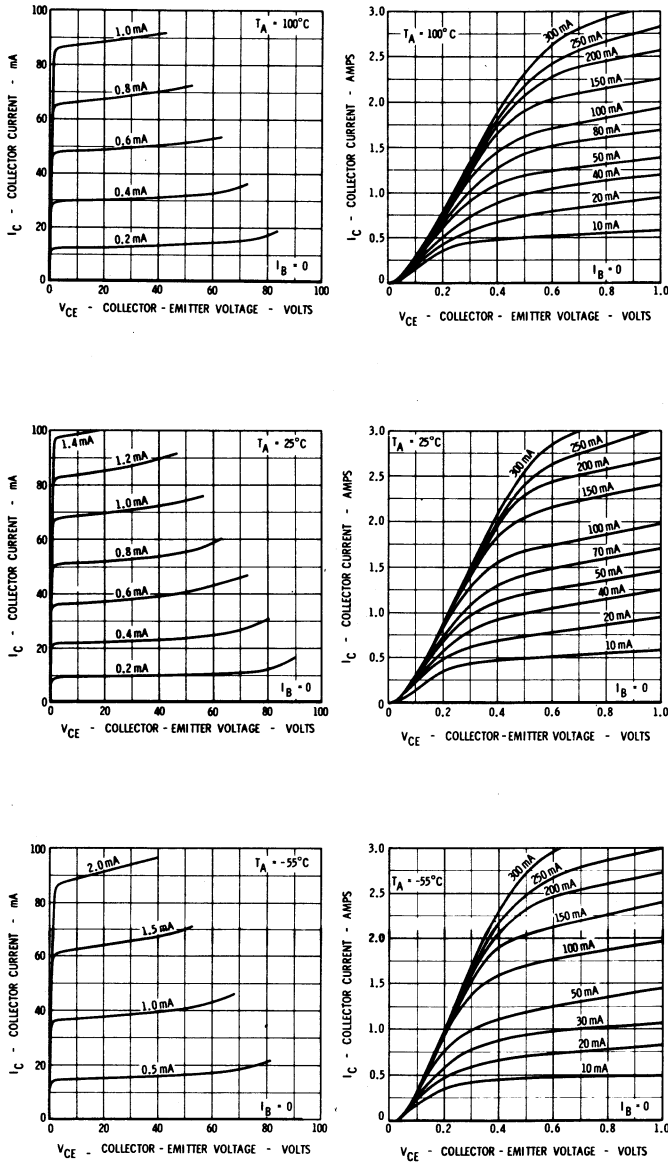
2N4075



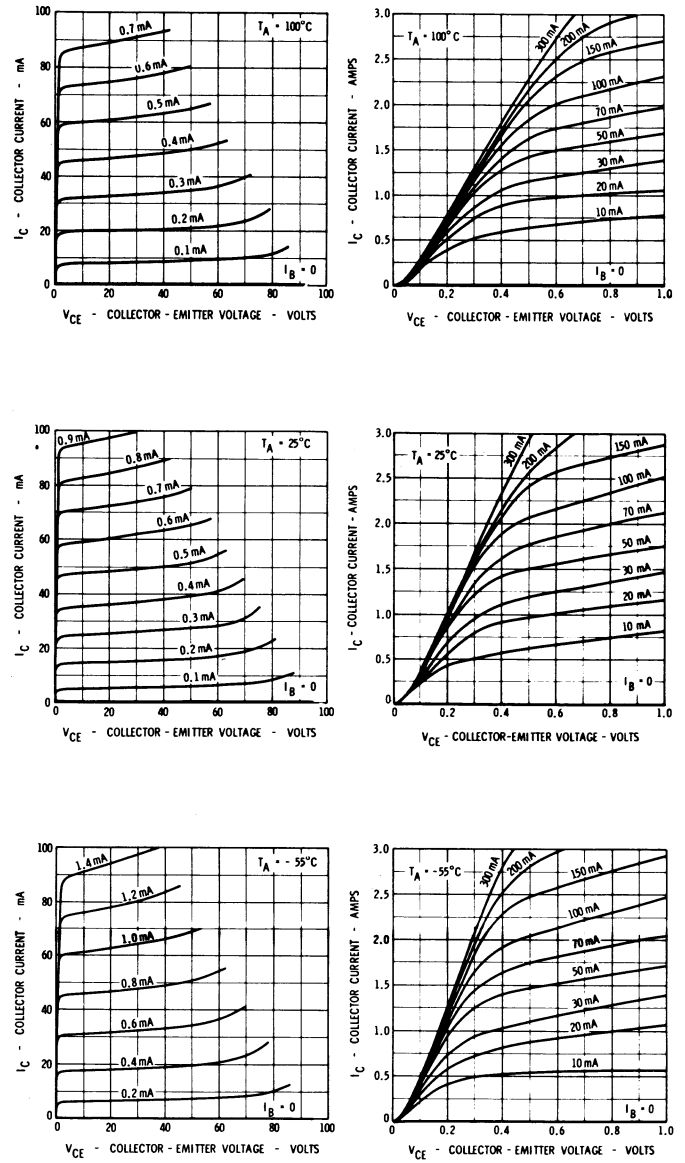
FAIRCHILD TRANSISTORS 2N4075 • 2N4076

TYPICAL COLLECTOR CHARACTERISTICS*

2N4075

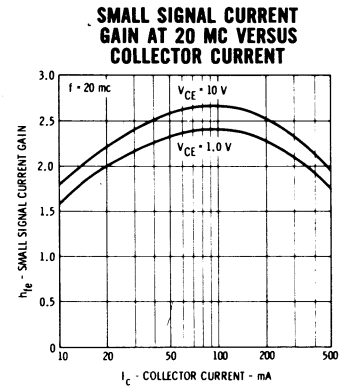
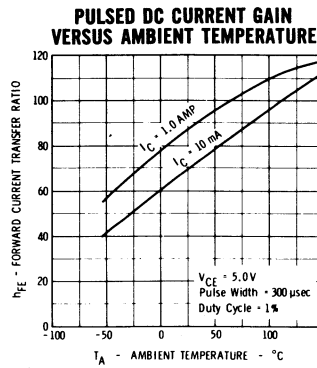
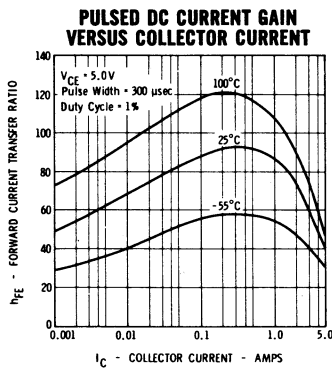


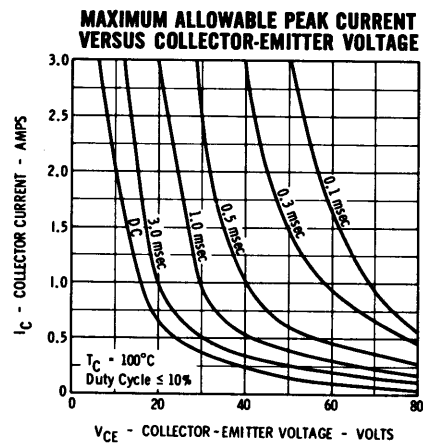
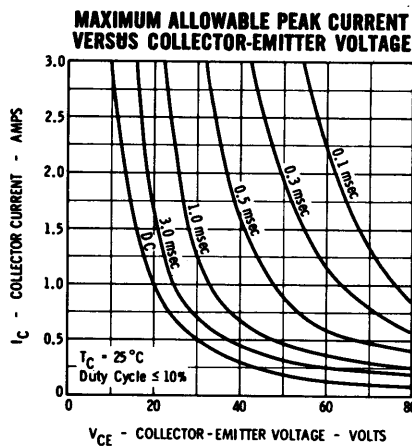
2N4076



* Single family characteristic on Transistor Curve Tracer.

2N4076

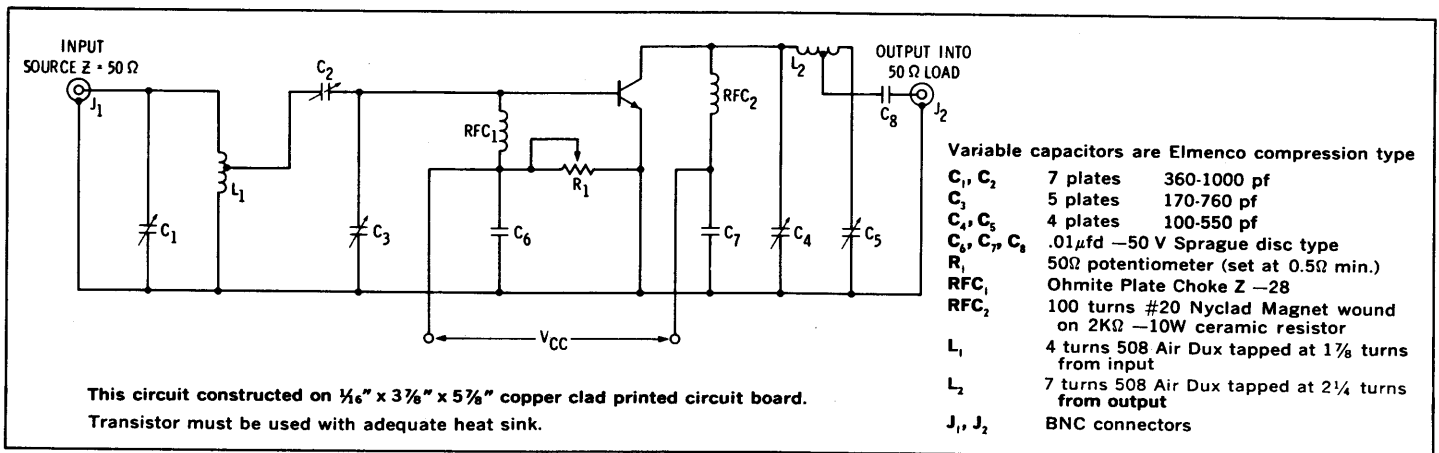




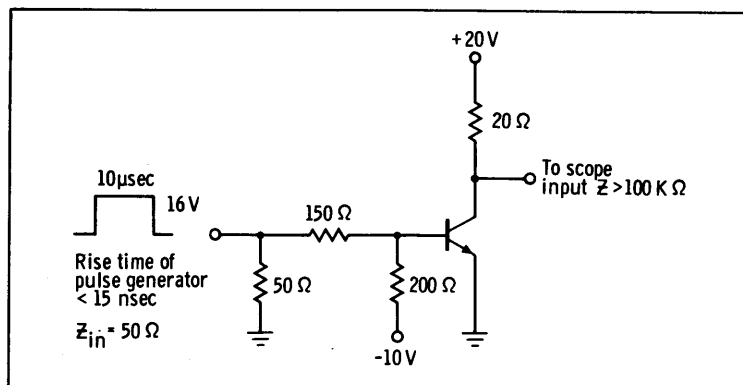
20 MC AMPLIFIER

RF Power Output = 12 watts
Efficiency = 55%

Gain = 7.0 db
 $V_{CC} = 33$ Volts



T_{ON} and T_{OFF} TEST CIRCUIT



2N4096 • 2N4097 • 2N4098

PNPN SILICON CONTROLLED RECTIFIERS

DIFFUSED SILICON PLANAR DEVICES

- OPERATION TO 125°C GUARANTEED WITH NO FORWARD OR REVERSE VOLTAGE DERATING.
- LOW FORWARD "ON" VOLTAGE GUARANTEED AT 3 POINTS.
- LOW FORWARD AND REVERSE LEAKAGES GUARANTEED.
- PLANAR RELIABILITY BUILT IN.

ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures

Storage Temperature	- 65°C to + 125°C
Operating Junction Temperature	- 65°C to + 125°C
Lead Temperature (Soldering, 10 sec. time limit)	+ 260°C Maximum

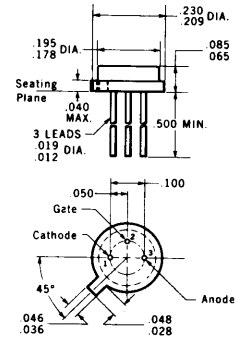
Maximum Power Dissipation

Average Gate Power Dissipation at 25°C Ambient Temperature (Note 2)	0.1 Watt
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Maximum Currents

DC Forward Current at 25°C Case Temperature (Note 2)	1.0 Amp.
DC Forward Current at 25°C Ambient Temperature	175 mA
Surge Current at 25°C Ambient Temperature (Note 2)	4.0 Amps.
(½ cycle sine wave = 8.3 msec)	
Average Forward Current at 25°C Ambient Temperature 180° Conduction	130 mA

PHYSICAL DIMENSIONS in accordance with JEDEC (TO-46) outline



NOTES: All dimensions in inches.
Leads are gold plated over.
Collector internally connected to case.
Package weight is 0.36 gram.

ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise specified)

SYMBOL	CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS
V_{FX}	Forward Blocking Voltage ($T_A = -65^\circ\text{C}$ to $+125^\circ\text{C}$)	2N4096	50		Volts	$I_{FX} = 0.05 \mu\text{A}$, $R_{GK} = 1.0 \text{ K}\Omega$
		2N4097	100		Volts	
		2N4098	200		Volts	
V_{RO}	Reverse Blocking Voltage ($T_A = -65^\circ\text{C}$ to $+125^\circ\text{C}$)	2N4096	50		Volts	$I_{RO} = 0.05 \mu\text{A}$, $R_{GK} = \infty$
		2N4097	100		Volts	
		2N4098	200		Volts	
I_{FX}	Forward Blocking Current (at rated V_{FX})		8	50	nA	$R_{GK} = 1.0 \text{ K}\Omega$
$I_{FX} (125^\circ\text{C})$	Forward Blocking Current (at rated V_{FX})		5	20	μA	$R_{GK} = 1.0 \text{ K}\Omega$
I_{RO}	Reverse Blocking Current (at rated V_{RO})		8	50	nA	$R_{GK} = \infty$
$I_{RO} (125^\circ\text{C})$	Reverse Blocking Current (at rated V_{RO})		5	20	μA	$R_{GK} = \infty$
I_{GT}	Gate Trigger Current		0.060	0.2	mA	$V_{AK} = 10\text{V}$, $R_L = 100\Omega$
$I_{GT} (-55^\circ\text{C})$	Gate Trigger Current		0.110	2.0	mA	$V_{AK} = 10\text{V}$, $R_L = 100\Omega$
V_{GT}	Gate Trigger Voltage		0.58	0.8	Volts	$V_{AK} = 10\text{V}$, $R_L = 100\Omega$
$V_{GT} (-55^\circ\text{C})$	Gate Trigger Voltage		0.75	1.1	Volts	$V_{AK} = 10\text{V}$, $R_L = 100\Omega$
$V_{GT} (125^\circ\text{C})$	Gate Trigger Voltage (at rated V_{FX})	0.2	0.4		Volts	$R_L = 10 \text{ K}\Omega$

Additional Electrical Characteristics on page 2

NOTES:

- (1) These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
- (2) These ratings give a maximum junction temperature of 125°C and junction to case thermal resistance of 44.5°C/Watt (derating factor of 22.5 mW/°C); junction to ambient thermal resistance of 500°C/W (derating factor of 2.0 mW/°C).

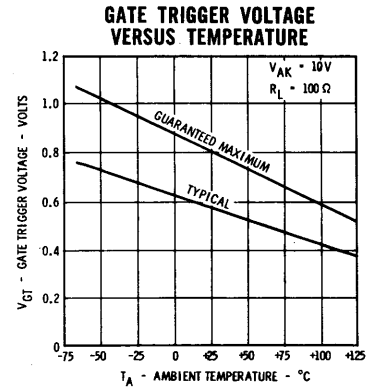
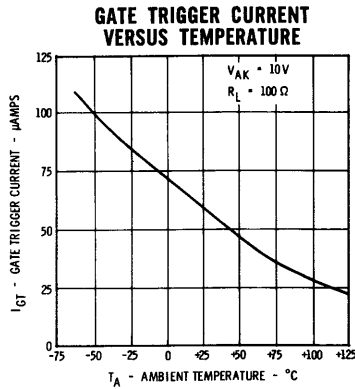
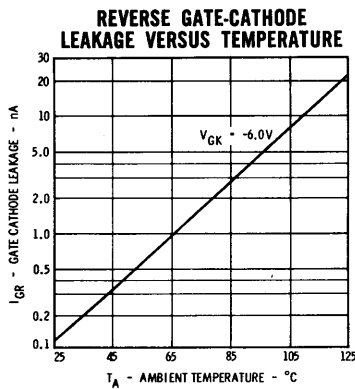
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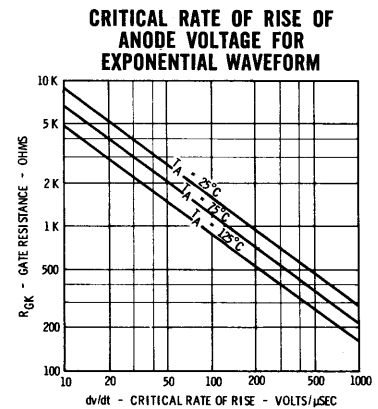
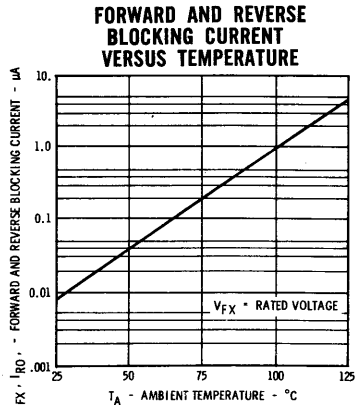
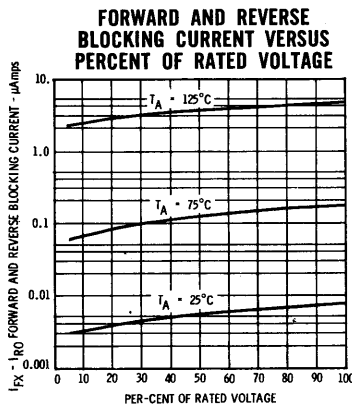
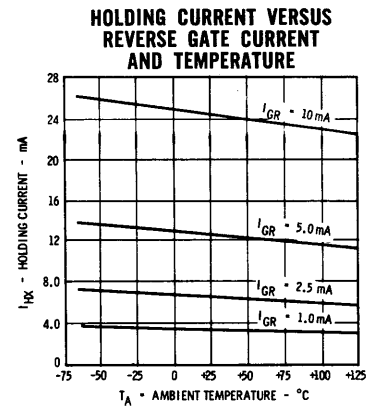
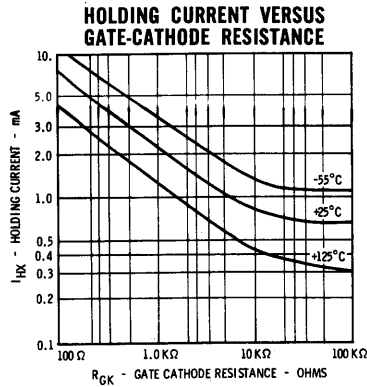
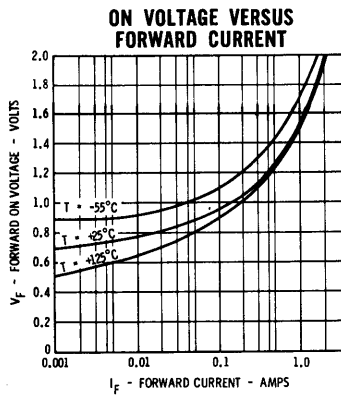
ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise specified)

SYMBOL	CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS
V_F	On Voltage		0.95	1.15	Volts	$I_F = 175 \text{ mA}$
V_F	On Voltage		1.05	1.2	Volts	$I_F = 250 \text{ mA}$
V_F	On Voltage		1.2	1.6	Volts	$I_F = 500 \text{ mA}$
I_{HO}	Holding Current		0.7	2.0	mA	$R_G = \infty, R_L = 1.0 \text{ K}\Omega$
I_{GR}	Gate Leakage Current		0.13	25	nA	$I_F = 0, V_{GK} = -6.0 \text{ V}$
$I_{GR} (125^\circ\text{C})$	Gate Leakage Current		0.024	10	μA	$I_F = 0, V_{GK} = -6.0 \text{ V}$
t_{on}	Turn On Time		0.56	1.5	μsec	$I_F \approx 200 \text{ mA}, I_{GF} = 10 \text{ mA}$
t_{off}	Turn Off Time (see t_{off} circuit)		6.5	15	μsec	$I_F = I_R \approx 200 \text{ mA}$
dv/dt	Critical Rate of Rise (at rated V_{FX})	75	200		Volts/ μsec	$R_{GK} = 1 \text{ K}\Omega, R_L = 100 \Omega$

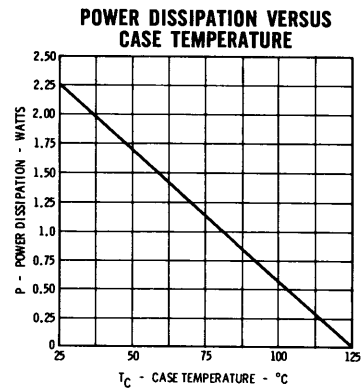
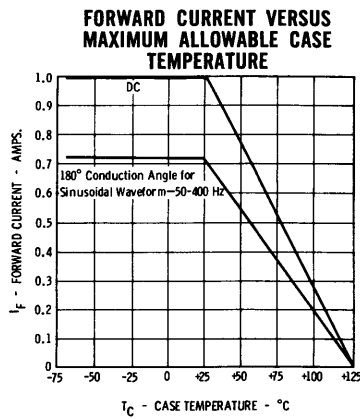
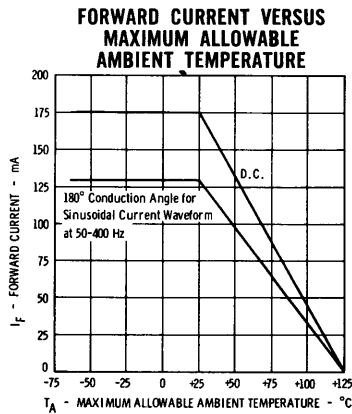
GATE CHARACTERISTICS



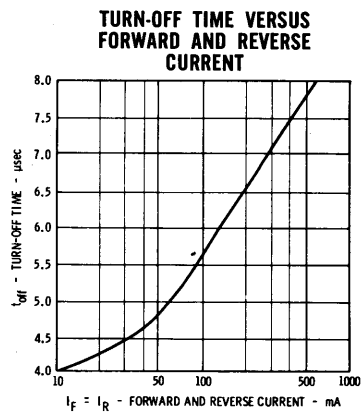
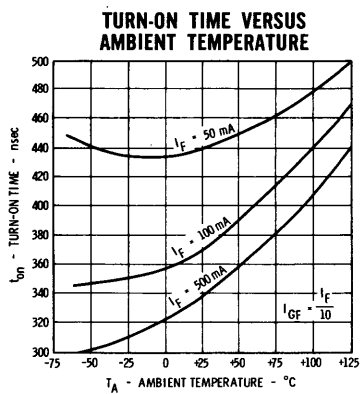
TYPICAL ELECTRICAL CHARACTERISTICS



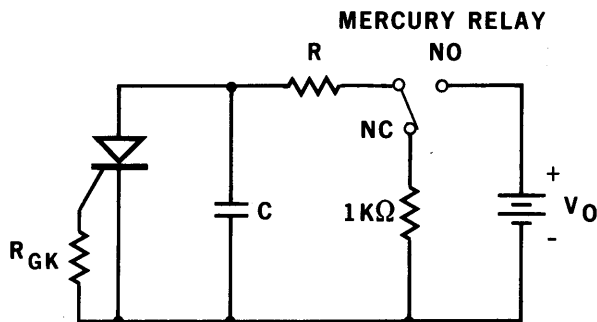
MAXIMUM RATINGS



SWITCHING CHARACTERISTICS

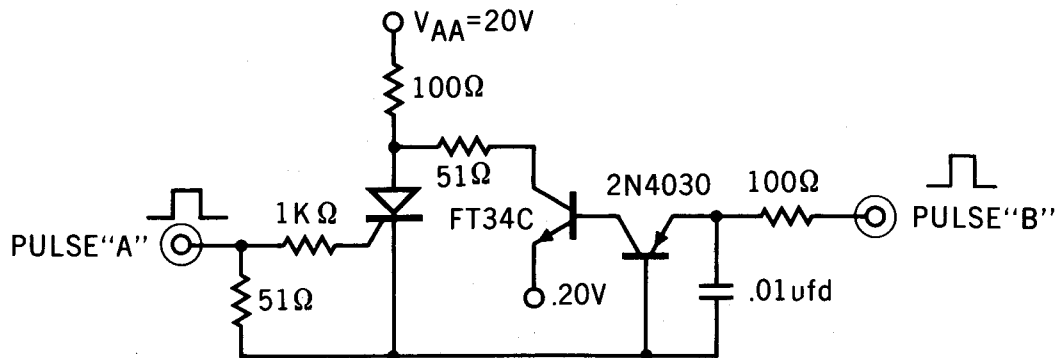


$\frac{dv}{dt}$ CIRCUIT



$$\frac{dv}{dt} = 0.632 \frac{V_0}{RC}$$

V_0 = RATED VOLTAGE

t_{off} CIRCUIT

PULSE B DELAYED FROM PULSE A BY APPROXIMATELY 100 μ sec.

ANODE CHARACTERISTIC

