

Silizium
Planar
Epitaxial

Extrem niederohmige u. schnelle N-Kanal-Feldeffekt-Transistoren für Chopper- und Schalteranwendungen

- Ultra-niedrige "Ein"-Widerstände
- Extrem kurze Schaltzeiten
- Sehr niedrige Kapazitäten
- Hohe Eingangsimpedanz

$5\Omega \rightarrow$ (SDF 1000)
 7Ω SDF 1001
 10Ω SDF 1002
 15Ω SDF 1003

Mettall
TO 18

Diese Feldeffekt-Transistoren werden nach dem patentierten SOLITRON - J - VERFAHREN hergestellt (high-rel-Qualität)

Grenzwerte bei 25°C, wenn nicht anders angegeben.

	Symbol	SDF 1001	SDF 1002	SDF 1003	Einheit
Drain-Gate-Spannung	U_{DG}	30	30	30	V
Drain-Source-Spannung	U_{DS}	30	30	30	V
Source-Gate-Spannung	U_{SG}	30	30	30	V
Gate-Strom	I_g	100	100	100	mA
Verlustleistung bei 25°C Umgebungstemperatur	P_{tot}	0,3	0,3	0,3	W
Leistungsabnahme		2,3	2,3	2,3	mW/°C
Verlustleistung bei 25°C Gehäusetemperatur	P_{tot}	1,8	1,8	1,8	W
Leistungsabnahme		10,0	10,0	10,0	mW/°C
Lagertemperatur	T_L	-65 bis +200	-65 bis +200	-65 bis +200	°C
Löttemperatur für 10sec.		300	300	300	°C

Schaltzeiten bei 25°C, wenn nicht anders angegeben.

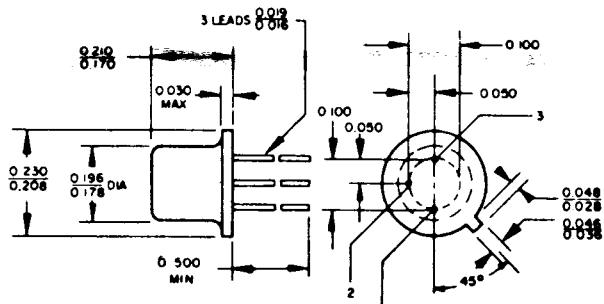
Type	Einschaltzeit t_{on} max.	Anstiegszeit t_r max.	Ausschaltzeit t_{off} max.	Abfallzeit t_f max.	Bedingungen
SDF 1001	4 ns	1 ns	30 ns	6 ns	$U_{DD}=1,5V$; $U_{GS}=0V$ $I_{D(on)}=10mA$ $U_{GS(off)}=-12V$
SDF 1002	4 ns	1 ns	30 ns	6 ns	$U_{DD}=1,5V$; $U_{GS}=0V$ $I_{D(on)}=10mA$ $U_{GS(off)}=-10V$
SDF 1003	4 ns	1 ns	30 ns	6 ns	$U_{DD}=1,5V$; $U_{GS}=0V$ $I_{D(on)}=10mA$ $U_{GS(off)}=-7V$

Kennwerte bei 25°C, wenn nicht anders angegeben.

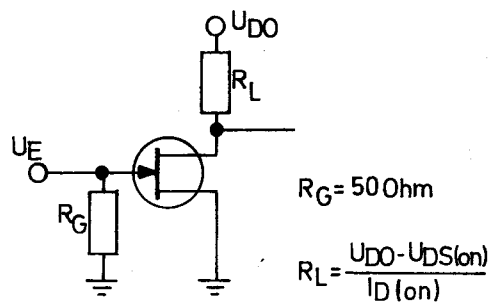
	Symbol	SDF 1001 min. max.	SDF 1002 min. max.	SDF 1003 min. max.	Einh.	Bedingungen
Gate-Source-Durchbruchspg.	$U_{(BR)GS}$	30	30	30	V	$U_{DS}=0V; I_G=1,0\mu A$
Pinch-off-Spannung	$U_{GS(off)}$	3 9	1 6	1 4	V	$U_{DS}=10V; I_D=1,0\mu A$
Gate-Reststrom	I_{GSS}	0,2	0,2	0,2	nA	$U_{DS}=0V; U_{GS}=15V$
Gate-Reststrom (150°C)	I_{GSS}	0,2	0,2	0,2	μA	$U_{DS}=0V; U_{GS}=15V$
Drain-Reststrom	$I_{D(off)}$	200	200	200	pA	$U_{DS}=5V; U_{GS}=10V$
Drain-Reststrom (150°C)	$I_{D(off)}$	200	200	200	nA	$U_{DS}=5V; U_{GS}=10V$
Drain-Source-Sattstrom	I_{DSS}	100	50	30	mA	$U_{DS}=15V; U_{GS}=0V$
Drain-Source- "Ein"-Widerstand	R_{on}	7	10	15	Ohm	$U_{GS}=0V; I_D=10mA$
Drain-Gate-Kapazität	C_{DG0}	12	12	12	pF	$U_{DG}=10V; U_{DS}=0V$ $f = 1MHz$
Source-Drain-Kapazität	C_{SG0}	12	12	12	pF	$U_{SG}=10V; U_{DS}=0V$ $f = 1MHz$
Kurzschluß-Eingangs- Kapazität	C_{11S}	25	25	25	pF	$U_{DS}=0V; U_{GS}=10V$ $f = 1kHz$

SDF 1000: Preise und Daten nur auf schriftliche Anfrage

Metallgehäuse TO-18



Anschl. 1 Source
Anschl. 2 Drain
Anschl. 3 Gate



Preise:	1 - 24 Stück	ab 25 Stück	ab 100 Stück
SDF 1000	-----	-----	-----
SDF 1001	110.50 DM	100.-- DM	66.90 DM
SDF 1002	92.-- DM	83.50 DM	56.40 DM
SDF 1003	73.50 DM	66.90 DM	43.70 DM

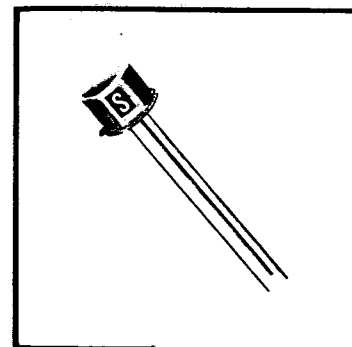
10-A-NPN- Leistungs-Schalttransistor

SDT6110

- Ersatz für übliche Parallelschaltungen mehrerer Transistoren
- Hohe Schaltströme bei kurzen Schaltzeiten
- Besonders geeignet für: HF-Pulsgeneratoren, Hochspannungsschalter usw.

Grenzwerte

Kollektor-Basis-Spannung	65V
Kollektor-Emitter-Spannung	30V
Emitter-Basis-Spannung	4V
Kollektor-Strom	10A
Basis-Strom	4A
Betriebs-Sperrschichttemperatur	-65°C bis +200°C
Lagertemperatur	-65°C bis +200°C
Gesamtverlustleistung	10W



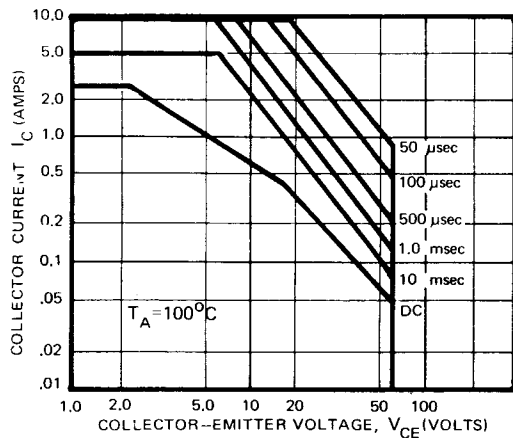
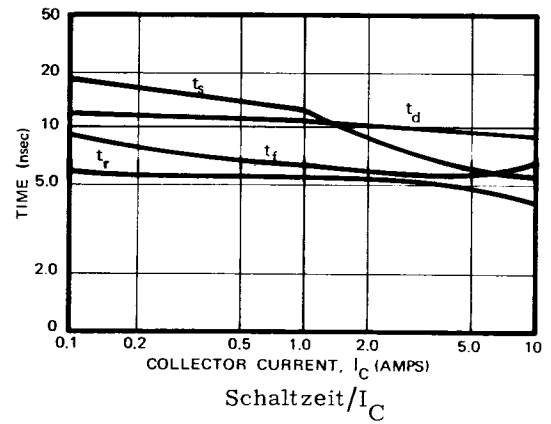
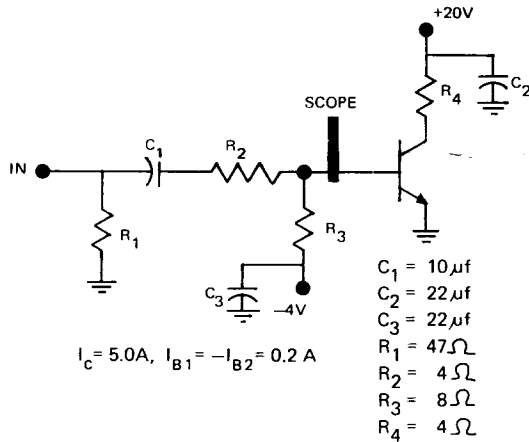
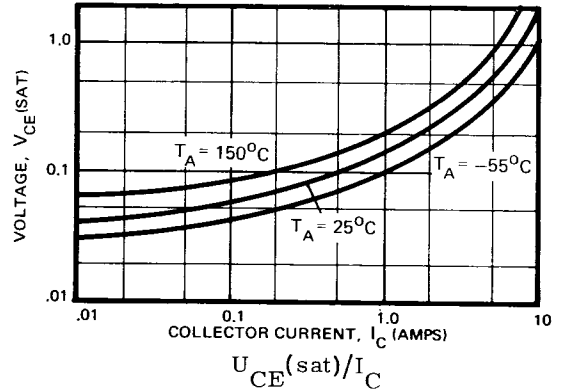
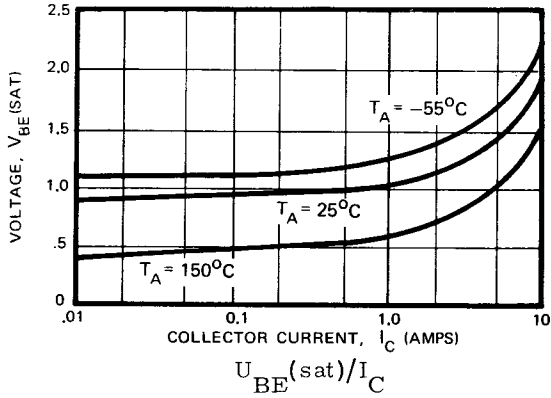
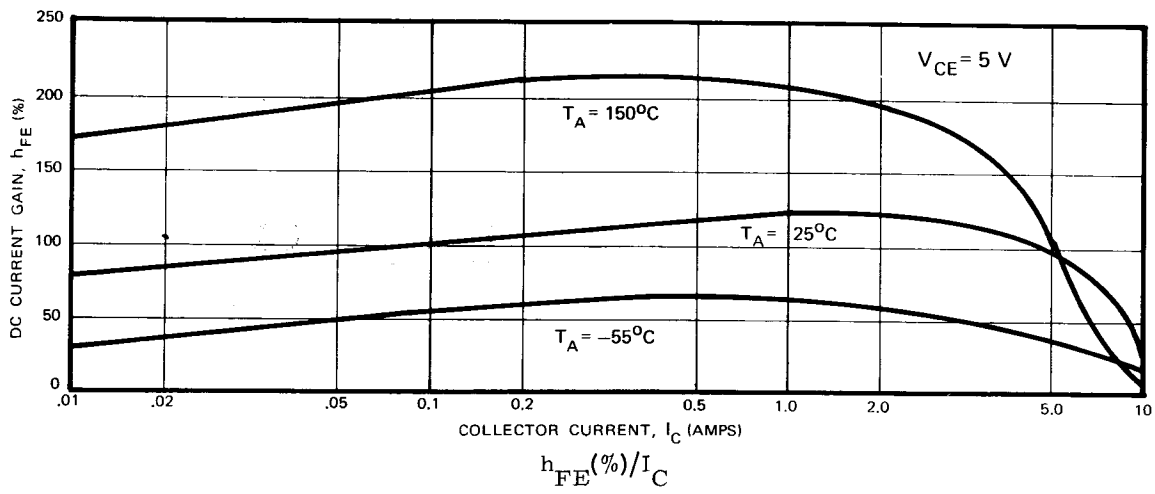
Kennwerte (T_U=25°C)

		min	max	
<u>Statisch</u>				
U _{CBO}	I _C =0,25mA, I _E =0	65		V
U _{CEO}	I _C =25mA, I _B =0	30		V
U _{EBO}	I _E =0,25mA, I _C =0	4		V
h _{FE} ⁺	I _C =5A, U _{CE} =5V	10		
U _{BE(sat)} ⁺	I _C =5A, I _B =1A		1,7	V
U _{BE(sat)} ⁺	I _C =5A, I _B =1A		1	V
<u>Dynamisch</u>				
C _{OB}	U _{CB} =28V, f=1MHz		25	pF
f _t	I _C =0,25A, U _{CE} =15V	350		MHz
t _{EIN}	I _C =5A, I _{B1} =-I _{B2} =0,5A		75	ns
t _{AUS}	I _C =5A, I _{B1} =-I _{B2} =0,5A		75	ns

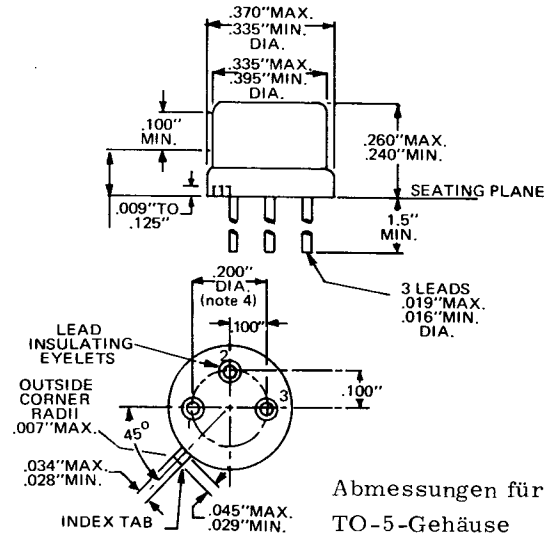
+Impulsbreite = 330µs, Tastverhältnis = 2%

Preise

Stück	1-24	ab 25	ab 100
DM	108, --	98, --	72,90



TO-5



10 AMP SILICON PLANAR NPN POWER TRANSISTORS

SPECIFICATIONS

(TO-3)	(TO-66)	(TO-61)	(TO-5)
SDT7601	SDT7A01	SDT7014	SDT7401
SDT7602	SDT7A02	SDT7015	SDT7402
SDT7603	SDT7A03	SDT7016	SDT7403
SDT7604	SDT7A04	SDT7154	
SDT7605	SDT7A05	SDT7155	
SDT7607	SDT7A07	SDT7011	SDT7411
SDT7608	SDT7A08	SDT7012	SDT7412
SDT7609	SDT7A09	SDT7013	SDT7413
SDT7610	SDT7A10	SDT7150	
SDT7611	SDT7A11	SDT7151	
SDT7612	SDT7A12	SDT7152	

DESIGNED-IN ADVANTAGES

GREATER GAIN STABILITY — planar fabrication techniques give these new Solitron transistors unusually consistent gain, even across a wide range of currents. Gain is flat from below 10 milliamps to above 5 amps.

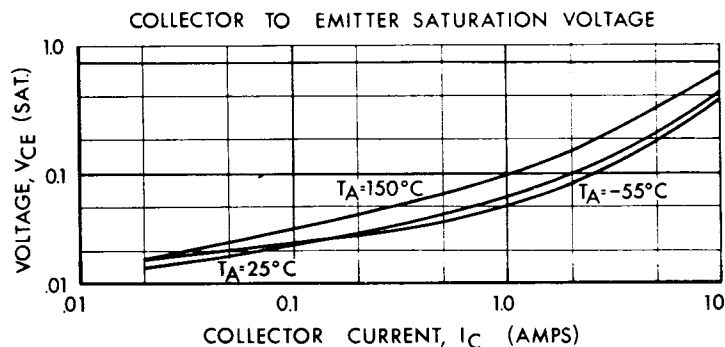
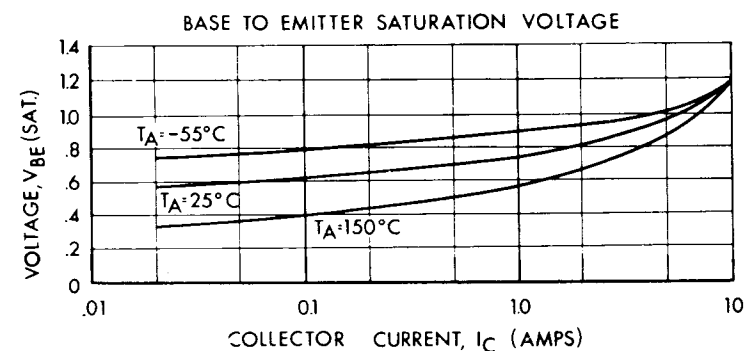
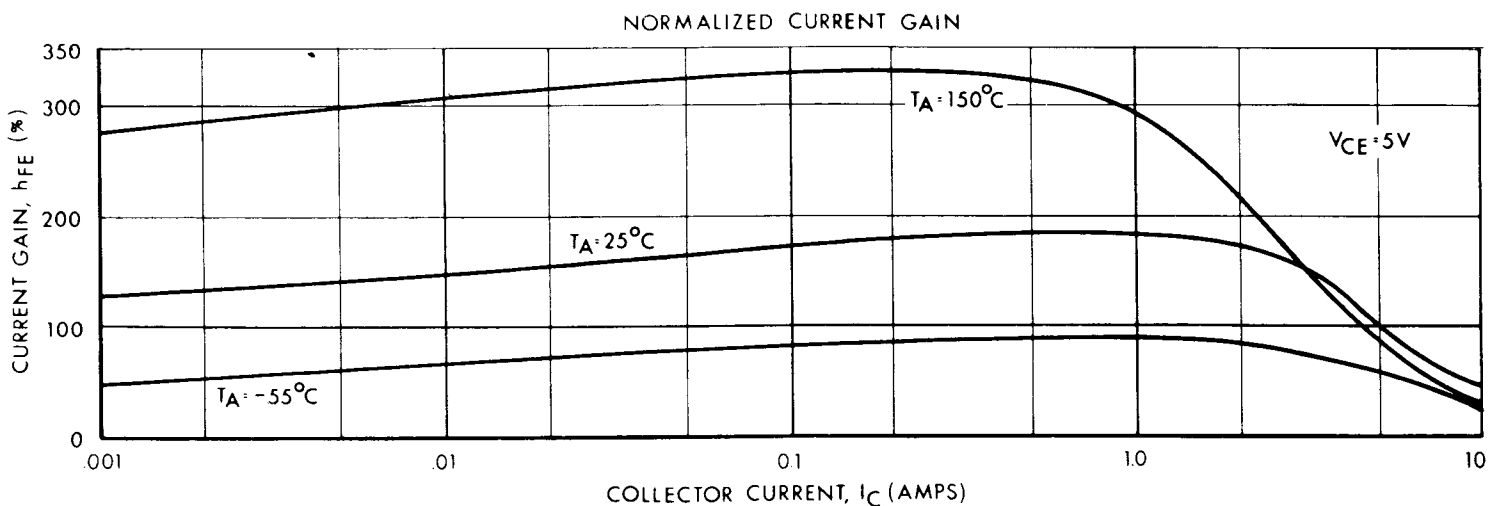
MINIMUM LONG-TERM DRIFT — planar construction eliminates surface contamination, ensuring consistent performance for the life of the device.

FAST SWITCHING — shorter rise, fall, and storage times make these transistors ideal for switching applications that demand high speed at high currents. $f_T = 60$ MHz typical.

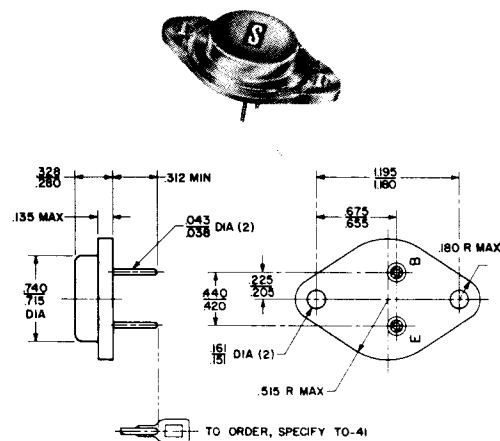
ABSOLUTE MAXIMUM RATINGS

	TO-3	TO-66	TO-61	TO-5	
Collector-to-Base Voltage					
7601	7A01	7014	7401	.....	60 Vdc max.
7602	7A02	7015	7402	.....	80 Vdc max.
7603	7A03	7016	7403	.....	100 Vdc max.
7604	7A04	7154	.....	.....	140 Vdc max.
7605	7A05	7155	.....	.....	170 Vdc max.
Emitter-to-Base Voltage					8 Vdc max.
Collector-to-Emitter Voltage					
7601	7A01	7014	7401	.....	40 Vdc max.
7602	7A02	7015	7402	.....	60 Vdc max.
7603	7A03	7016	7403	.....	80 Vdc max.
7604	7A04	7154	.....	.....	120 Vdc max.
7605	7A05	7155	.....	.....	150 Vdc max.
Collector Current					10 Adc max.
Total Dissipation at: 100°C Case Temperature					60 W max.
Thermal Resistance, Junction to Case					1.5 °C/W
Operating Junction Temperature					-65°C to +200°C

High Reliability versions of the 10 amp family, sustaining voltages to 200 volts.



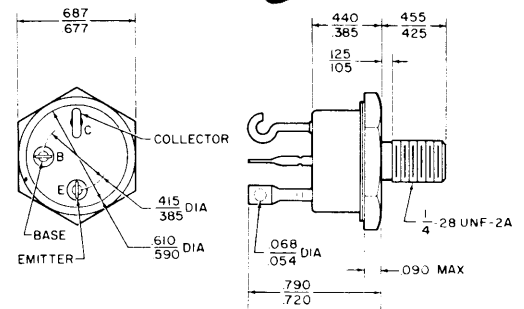
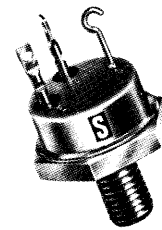
TYPE NUMBERS	RATED BREAKDOWN VOLTAGES			h_{FE} @ $I_C = 5.0A$ $V_{CE} = 5.0V$		SAT. VOLTAGES (Max.) @ $I_C = 5.0A$ $I_B = 0.5A$		I_{CBO} (μA) @	
	V_{CB}	V_{CE}	V_{EB}	Min.	Max.	V_{CE}	V_{BE}	Max.	V_{CB}
2N4070	120	100	8	40	120	0.6	1.5	0.1	60
2N4071	200	150	8	40	120	0.6	1.5	0.1	100
SDT7601	60	40	8	40	120	0.5	1.5	0.5	30
SDT7602	80	60	8	40	120	0.5	1.5	0.5	30
SDT7603	100	80	8	40	120	0.5	1.5	0.5	60
SDT7604	140	120	8	40	120	0.5	1.5	0.5	60
SDT7605	170	150	8	40	120	0.6	1.5	0.5	100
SDT7607	60	40	8	20	60	0.5	1.5	0.5	30
SDT7608	80	60	8	20	60	0.5	1.5	0.5	30
SDT7609	100	80	8	20	60	0.5	1.5	0.5	60
SDT7610	140	120	8	20	60	0.5	1.5	0.5	60
SDT7611	170	150	8	20	60	0.6	1.5	0.5	100
SDT7612	220	200	8	20	60	0.6	1.5	0.5	100



TO-3

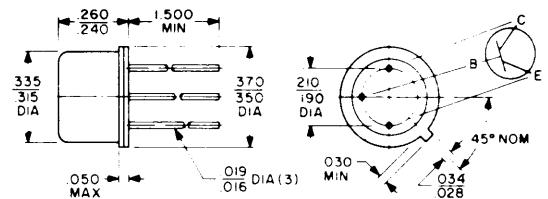
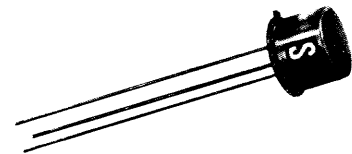
$\theta_{J-C} = 1.5^\circ\text{C/Watt}$ (65 Watts Max. @ $T_C = 100^\circ\text{C}$)
 $\theta_{J-A} = 45^\circ\text{C/Watt}$

TYPE NUMBERS	RATED BREAKDOWN VOLTAGES			h_{FE} @ $I_C=5.0A$ $V_{CE}=5.0V$		SAT. VOLTAGES (Max.) @ $I_C=5.0A$ $I_B=0.5A$		I_{CBO} (μA) @	
	V_{CB}	V_{CE}	V_{EB}	Min.	Max.	V_{CE}	V_{BE}	Max.	V_{CB}
2N2811	80	60*	8	20	60	0.5	1.2	0.1	60
2N2812	80	60	8	40	120	0.5	1.2	0.1	60
2N2813	120	80	8	20	60	0.5	1.2	0.1	60
2N2814	120	80	8	40	120	0.5	1.2	0.1	60
SDT7011	60	40	5	20	60	0.5	1.5	1.0	60
SDT7012	80	60	5	20	60	0.5	1.5	1.0	60
SDT7013	100	80	5	20	60	0.5	1.5	1.0	60
SDT7014	60	40	5	40	120	0.5	1.5	1.0	60
SDT7015	80	60	5	40	120	0.5	1.5	1.0	60
SDT7016	100	80	5	40	120	0.5	1.5	1.0	60
SDT7017	60	40	5	100	—	0.5	1.5	1.0	60
SDT7018	80	60	5	100	—	0.5	1.5	1.0	60
SDT7019	100	80	5	100	—	0.5	1.5	1.0	60
SDT7140	120	100	8	40	120	0.6	1.5	0.1	60
SDT7141	200	150	8	40	120	0.6	1.5	0.1	100
SDT7150	140	120	8	20	60	0.5	1.5	0.5	60
SDT7151	170	150	8	20	60	0.6	1.5	0.5	100
SDT7152	220	200	8	20	60	0.6	1.5	0.5	100
SDT7154	140	120	8	40	120	0.5	1.5	0.5	60
SDT7155	170	150	8	40	120	0.6	1.5	0.5	100



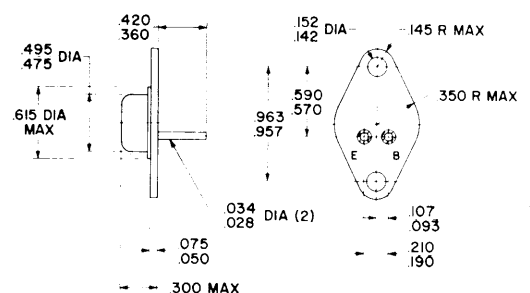
TO-61

$\theta_{J-C} = 2^{\circ}C/Watt$ (50 Watts Max. @ $T_C = 100^{\circ}C$)



TO-5

$\theta_{J-C} = 20^{\circ}C/Watt$ (5 Watts Max. @ $T_C = 100^{\circ}C$)
 $\theta_{J-A} = 140^{\circ}C/Watt$



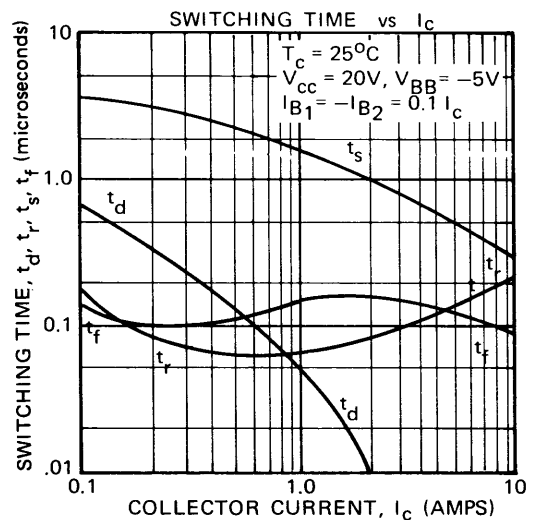
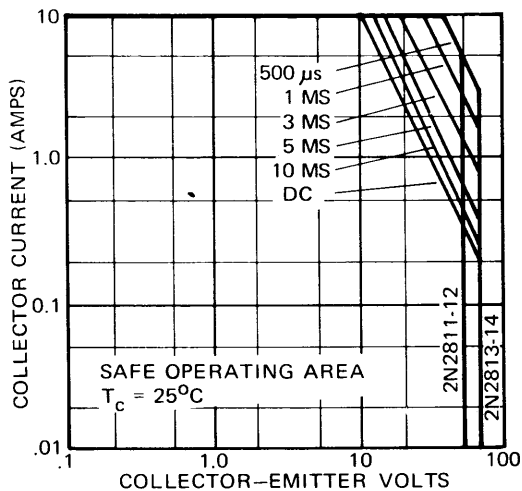
TO-66

$\theta_{J-C} = 2.5^{\circ}C/Watt$ (40 Watts Max. @ $T_C = 100^{\circ}C$)

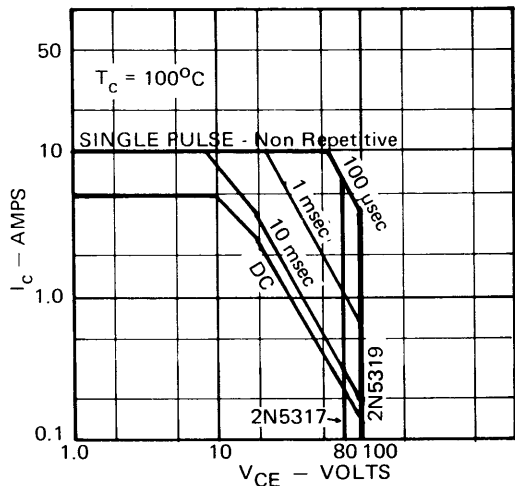
2N4150	100	80	5	40	120	0.6	1.5	0.1	60
SDT7401	60	40	5	40	120	0.5	1.5	1.0	30
SDT7402	80	60	5	40	120	0.5	1.5	1.0	60
SDT7403	100	80	5	40	120	0.5	1.5	1.0	60
SDT7411	60	40	5	20	60	0.6	1.5	1.0	30
SDT7412	80	60	5	20	60	0.6	1.5	1.0	60
SDT7413	100	80	5	20	60	0.6	1.5	1.0	60
SDT7414	60	40	5	40	120	0.6	1.5	1.0	30
SDT7415	80	60	5	40	120	0.6	1.5	1.0	60
SDT7416	100	80	5	40	120	0.6	1.5	1.0	60
SDT7417	60	40	5	100	—	0.6	1.5	1.0	30
SDT7418	80	60	5	100	—	0.6	1.5	1.0	60
SDT7419	100	80	5	100	—	0.6	1.5	1.0	60

SDT7A01	60	40	8	40	120	0.5	1.5	0.5	30
SDT7A02	80	60	8	40	120	0.5	1.5	0.5	30
SDT7A03	100	80	8	40	120	0.5	1.5	0.5	60
SDT7A04	140	120	8	40	120	0.5	1.5	0.5	60
SDT7A05	170	150	8	40	120	0.6	1.5	0.5	100
SDT7A07	60	40	8	20	60	0.5	1.5	0.5	30
SDT7A08	80	60	8	20	60	0.5	1.5	0.5	30
SDT7A09	100	80	8	20	60	0.5	1.5	0.5	60
SDT7A10	140	120	8	20	60	0.5	1.5	0.5	60
SDT7A11	170	150	8	20	60	0.6	1.5	0.5	100
SDT7A12	220	200	8	20	60	0.6	1.5	0.5	100

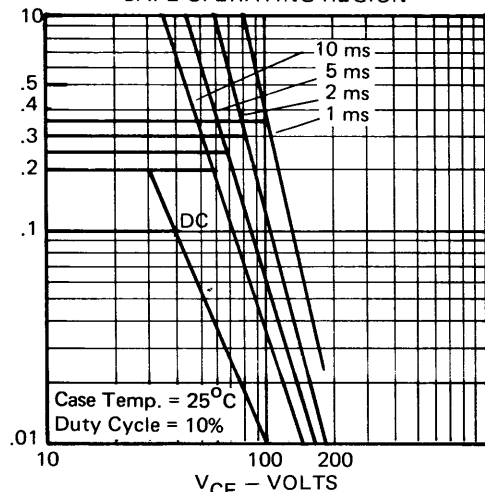
TO-61 FAMILY, TO-3 FAMILY



TO-66 FAMILY SAFE OPERATING REGION - FORWARD BIAS MODE



TO-5 FAMILY SAFE OPERATING REGION



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Ferrite & Ferrite Devices
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Cove Road
305 / 833-6528

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Loads & Terminations
Strip Line Launchers
Couplers
Custom Strip Line Assemblies

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