



Microtab TRANSISTORS



13/07/02

The General Electric D26C series are NPN microminiature silicon, planar, epitaxial, passivated transistors similar to the 2N2217 through 2N2222 series. These devices are designed for fast switching over a wide range of currents. The series forms the NPN complement to the D30A PNP series.

absolute maximum ratings: (25°C)

Voltages

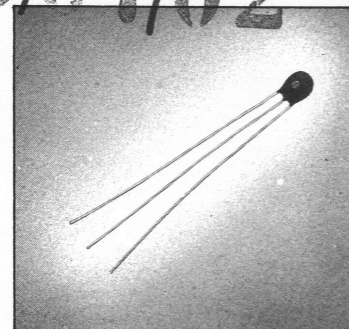
Collector to Emitter	V_{CE0}	18 Volts
Emitter to Base	V_{EBO}	5 Volts
Collector to Base	V_{CBO}	18 Volts

Dissipation

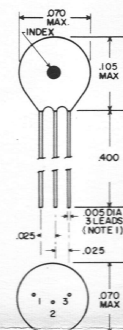
Total Power (Free air at 25°C)	P_T	90 mW
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Temperature

Storage	T_{STG}	-30 to +125°C
Operating	T_J	-30 to +100°C
Soldering (10 sec, 1/2" from body)	T_L	260°C



NOTES:
1. LEAD DIAMETER IS NOT CONTROLLED WITHIN .020 OF THE BODY



electrical characteristics: (25°C)

ALL DIMENSIONS ARE IN INCHES AND ARE REFERENCED UNLESS TOLERANCED

DC Characteristics

		Min.	Max.	
Collector Cutoff Current ($V_{CB} = 18V$)	I_{CBO}		25	nA
Emitter Cutoff Current ($V_{EB} = 5V$)	I_{EBO}		100	nA
Collector-Base Breakdown Voltage ($I_C = 100 \mu A$)	BV_{CBO}	18		V
Collector-Emitter Breakdown Voltage ($I_C = 1 \text{ mA}$)	BV_{CEO}^*	18		V
Emitter-Base Breakdown Voltage ($I_E = 100 \mu A$)	BV_{EBO}	5		V
Collector-Emitter Saturation Voltage ($I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$)	$V_{CE(SAT)}$.05	V
Forward Current Transfer Ratio ($I_C = 10 \text{ mA}, V_{CE} = 5V$)	h_{FE}^*	30	90	
	D26C1			
	D26C2	60	180	
	D26C3	140	250	
Collector Capacitance ($V_{CB} = 10V, f = 1 \text{ MHz}$)	C_{ob}		7	pF

*Pulse width $\leq 300 \mu\text{sec}$, Duty cycle $\leq 2\%$.

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ELECTRONIC
INNOVATIONS
IN ACTION

SEMICONDUCTORS

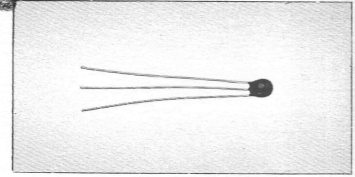
Microtab TRANSISTOR

35.50 7/66
(Supersedes 35.50 3/66)



13/07/02

The General Electric D26E-1 is a NPN silicon, planar, epitaxial, passivated transistor, similar to types 2N930, 2N2484. It is well suited as a high voltage, high gain amplifier and switch. Useful applications include drivers for audio output stages, high level video amplifiers and output stages of operational amplifiers.



"Twice Actual Size"

absolute maximum ratings: (25°C) (unless otherwise specified)

Voltages

Collector to Emitter	V_{CE0}	45 volts
Emitter to Base	V_{EB0}	5 volts
Collector to Base	V_{CB0}	45 volts

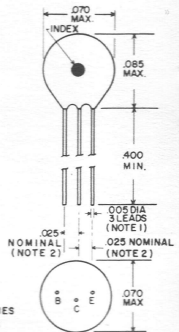
Dissipation

Total Power (Free air at 25°C)	P_T	90 mW
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Temperature

Storage	T_{STG}	-30 to +125°C
Operating	T_J	+100°C

NOTES:
1. LEAD DIAMETER IS NOT CONTROLLED WITHIN .050 OF THE BODY
2. LEAD POSITION IS NOT CONTROLLED BEYOND EXIT FROM THE BODY



ALL DIMENSIONS ARE IN INCHES AND ARE REFERENCED UNLESS TOLERANCED

electrical characteristics: (25°C)

DC CHARACTERISTICS

		Min.	Max.	
Collector Cut Off Current ($V_{CB} = 45V$)	I_{CBO}		10	nA
Emitter Cut Off Current ($V_{EB} = 5V$)	I_{EBO}		10	nA
Collector Leakage Current ($V_{CE} = 5V$)	I_{CBO}		2	nA
Collector-Emitter Breakdown Voltage ($I_C = 10 mA$)	BV_{CE0}^*	45		V
Emitter-Base Breakdown Voltage ($I_E = 10 \mu A$)	BV_{EB0}	5		V
Collector-Emitter Saturation Voltage ($I_C = 10 mA, I_B = 0.5 mA$)	$V_{CE(SAT)}$		1	V
Emitter-Base Saturation Voltage ($I_C = 10 mA, I_B = 0.5 mA$)	$V_{BE(SAT)}$.6	1	V
Forward Current Transfer Ratio ($I_C = 10 \mu A, V_{CE} = 5V$)	h_{FE}	100	300	
	h_{FE}	150		
	h_{FE}		600	

SMALL SIGNAL CHARACTERISTICS

Current Transfer Ratio ($I_C = 0.5 mA, V_{CE} = 5V, f = 20 MHz$)	$ h_{fe} $	4.0		
	h_{fe}	150	600	
Input Resistance ($I_E = 1 mA, V_{CB} = 5V, f = 1 kHz$)	h_{ib}	25	32	ohms
Voltage Feedback Ratio ($I_E = 1 mA, f = 1 kHz, V_{CE} = 5V$)	h_{rb}		600	$\times 10^{-6}$
Output Conductance ($I_E = 1 mA, V_{CB} = 5V, f = 1 kHz$)	h_{ob}		1	$\mu mhos$

HIGH FREQUENCY CHARACTERISTICS

Collector Capacitance ($V_{CB} = 5V, f = 1 MHz$)	C_{ob}		8	pF
Noise Figure ($R_g = 10K\Omega, BW = 15 Hz$ to 10 kHz, $I_C = 10 \mu A, V_{CE} = 5V$, Equivalent Noise Bandwidth = 15.7 kHz)	NF		3	dB

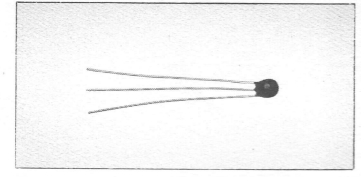
*Pulse width $\leq 300 \mu sec$, duty cycle $\leq 2\%$.

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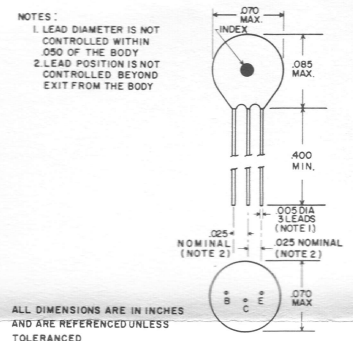
35.51 7/66
Supersedes 35.51 and 35.53 3/66

Microtab
TRANSISTORS

- NPN**
- D26E-2**
 - D26E-3**
 - D26E-4**
 - D26E-5**
 - D26E-6**



"Twice Actual Size"



The General Electric D26E series are NPN microminiature silicon, planar, epitaxial, passivated transistors. They are well suited as high voltage, high gain amplifiers and switches. Useful applications include drivers for audio output stages, high level video amplifiers and output stages of operational amplifiers.

absolute maximum ratings: (25°C)

Voltages			
Collector to Emitter	V_{CEO}	18 volts	
Emitter to Base	V_{EBO}	5 volts	
Collector to Base	V_{CBO}	18 volts	
Dissipation			
Total Power (Free air at 25°C)	P_T	90 mW	
Temperature			
Storage	T_{STG}	-30 to +125°C	
Operating	T_J	+100°C	

electrical characteristics: (25°C)

DC CHARACTERISTICS

		Min.	Max.	
Collector Cut Off Current ($V_{CB} = 18V$)	I_{CBO}		25	nA
Emitter Cut Off Current ($V_{EB} = 5V$)	I_{EBO}		100	nA
Collector-Base Breakdown Voltage ($I_C = 100 \mu A$)	BV_{CBO}	18		V
Collector-Emitter Breakdown Voltage ($I_C = 1 \text{ mA}$)	BV_{CEO}^*	18		V
Emitter-Base Breakdown Voltage ($I_E = 100 \mu A$)	BV_{EBO}	5		V
Collector-Emitter Saturation Voltage ($I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$)	$V_{CE(SAT)}$.25	V
Forward Current Transfer Ratio ($I_C = 100 \mu A, V_{CE} = 2.5V$)				
	D26E-2	h_{FE}	40	90
	D26E-3	h_{FE}	70	145
	D26E-4	h_{FE}	115	220
	D26E-5	h_{FE}	180	330
	D26E-6	h_{FE}	40	330
Collector Capacitance ($V_{CB} = 10V, f = 1 \text{ MHz}$)	C_{ob}		4	pF
Noise Figure ($I_C = 10 \mu A, V_{CE} = 5V, R_g = 10 \text{ K}\Omega, BW = 15 \text{ Hz to } 10 \text{ kHz},$ Equivalent Noise Bandwidth = 15.7 kHz)				
	D26E-2	NF	6	dB
	D26E-3	NF	5	dB
	D26E-4	NF	4	dB
	D26E-5	NF	3	dB
	D26E-6	NF	6	dB

*Pulse width $\leq 300 \mu\text{sec}$, duty cycle $\leq 2\%$.



ELECTRONIC
INNOVATIONS
IN ACTION

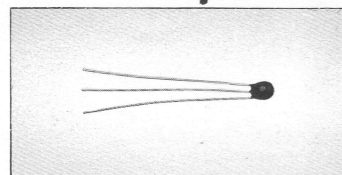
SEMICONDUCTORS

Microtab TRANSISTOR

35.52 7/66
(Supersedes 35.52 3/66)



1 3/0 7/0 2



"Twice Actual Size"

Preliminary Specifications

The General Electric D26G-1 is a microminiature NPN silicon, planar, epitaxial, passivated transistor similar to 2N918 types designed specifically for high frequency applications. The units are suitable for use as oscillators in UHF television tuners, etc.

absolute maximum ratings: (25°C) (unless otherwise specified)

Voltages

Collector to Emitter	V_{CE0}	15 volts
Emitter to Base	V_{EBO}	3 volts
Collector to Base	V_{CBO}	30 volts

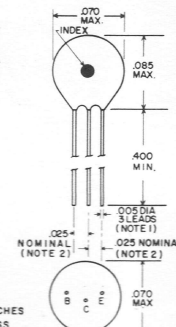
Dissipation

Total Power (Free air at 25°C)	P_T	90 mW
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Temperature

Storage	T_{STG}	-30 to +125°C
Operating	T_J	+100°C

NOTES:
1. LEAD DIAMETER IS NOT CONTROLLED WITHIN .090 OF THE BODY
2. LEAD POSITION IS NOT CONTROLLED BEYOND EXIT FROM THE BODY



ALL DIMENSIONS ARE IN INCHES AND ARE REFERENCED UNLESS TOLERANCED

electrical characteristics: 25°C)

DC CHARACTERISTICS

		Min.	Max.	
Collector Cut Off Current ($V_{CE} = 15V$)	I_{CES}		10	nA
Emitter Cut Off Current ($V_{EB} = 2V$)	I_{EBO}		500	nA
Collector-Base Breakdown Voltage ($I_C = 100 \mu A$)	BV_{CBO}	30		V
Collector-Emitter Breakdown Voltage ($I_C = 3 mA$)	BV_{CEO}^*	15		V
Emitter-Base Breakdown Voltage ($I_E = 100 \mu A$)		3		V
Collector-Emitter Saturation Voltage ($I_C = 10 mA, I_B = 1.0 mA$)	$V_{CE(SAT)}$		0.4	V
Emitter-Base Saturation Voltage ($I_C = 10 mA, I_B = 1.0 mA$)	$V_{BE(SAT)}$	1.0		V
Forward Current Transfer Ratio ($I_C = 3 mA, V_{CE} = 1V$)	h_{FE}	20		

SMALL SIGNAL CHARACTERISTICS

Current Transfer Ratio ($I_C = 4 mA, f = 100MHz, V_{CE} = 10V$)	$ h_{re} $	6		
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HIGH FREQUENCY CHARACTERISTICS

Input Capacitance ($V_{EB} = 0.5V, f = 1MHz$)	C_{ib}		1.6	pF
Collector Capacitance ($V_{CB} = 0, f = 1MHz$)	C_{ob}		3	pF
($V_{CB} = 10V, f = 1MHz$)	C_{ob}		1.7	pF
Noise Figure ($I_C = 1 mA, V_{CE} = 6V, R_g = 400\Omega, f = 60MHz$)	NF		6	dB
Power Gain ($V_{CB} = 12V, I_C = 6 mA, f = 200MHz$)	G_{PE}	15		dB

*Pulse width $\leq 300 \mu sec$, duty cycle $\leq 2\%$.

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Microtab TRANSISTORS

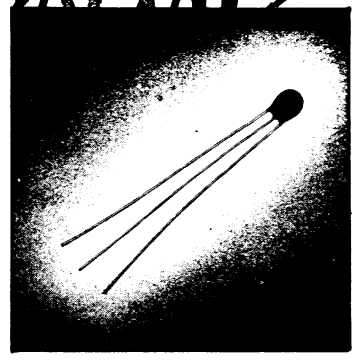


13/0 7/0 3

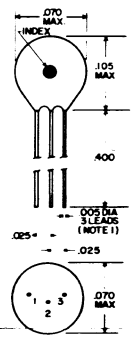
The General Electric D30A series are PNP microminiature silicon, planar, epitaxial, passivated transistors similar to the 2N2907 series. The D30A forms the PNP complement to the D26C NPN microminiature transistors. These devices may be used for amplifier, driver and general purpose switching applications.

absolute maximum ratings: (25°C)

Voltages			
Collector to Emitter	V_{CE0}	-18 Volts	
Emitter to Base	V_{EB0}	-4 Volts	
Collector to Base	V_{CB0}	-18 Volts	
Dissipation			
Total Power (Free air at 25°C)	P_T	90 mW	
Temperature			
Storage	T_{STG}	-30 to +125°C	
Operating	T_J	-30 to +100°C	
Soldering (10 sec, 1/32" from body)	T_L	260°C	



NOTES:
1. LEAD DIAMETER IS NOT CONTROLLED WITHIN .020 OF THE BODY



ALL DIMENSIONS ARE IN INCHES AND ARE REFERENCED UNLESS TOLERANCED

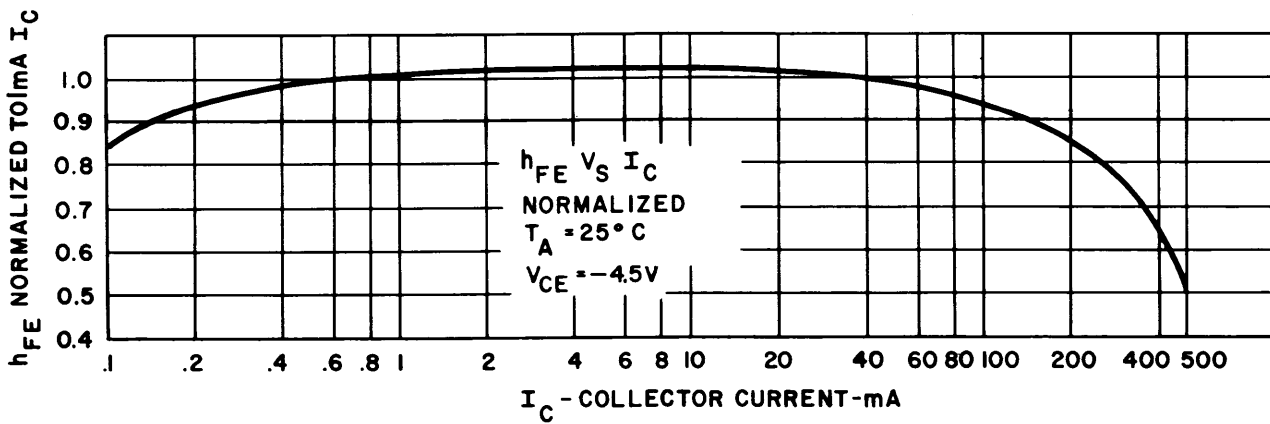
electrical characteristics: (25°C)

DC Characteristics		Min.	Max.	
Collector Cutoff Current ($V_{CB} = -18V$)	I_{CBO}		-25	nA
Emitter Cutoff Current ($V_{EB} = -4V$)	I_{EBO}		-100	nA
Collector-Base Breakdown Voltage ($I_C = -100 \mu A$)	BV_{CB0}	-18		V
Collector-Emitter Breakdown Voltage ($I_C = -1 \text{ mA}$)	BV_{CE0}^*	-18		V
Emitter-Base Breakdown Voltage ($I_E = -100 \mu A$)	BV_{EB0}	-4		V
Collector-Emitter Saturation Voltage ($I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$)	$V_{CE(SAT)}$		-0.25	V
Base-Emitter Saturation Voltage ($I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$)	$V_{BE(SAT)}$	-0.6	-0.8	V

electrical characteristics: (25°C) (Cont.)

		Min.	Max.	
Forward Current Transfer Ratio				
(I _C = 10 mA, V _{CE} = -5V)				
D30A1	h _{FE} *	30	90	
D30A2	h _{FE} *	60	180	
D30A3	h _{FE} *	140	260	
Collector Capacitance				
(V _{CB} = -10V, f = 1 MHz)				
	C _{ob}		6	pF

*Pulse width ≤ 300 μsec, Duty cycle ≤ 2%.



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