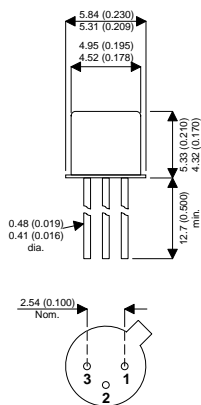


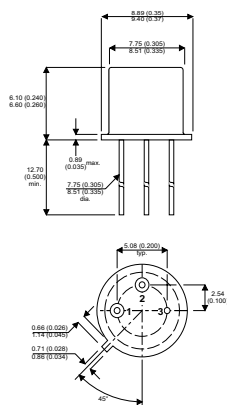
MECHANICAL DATA

Dimensions in mm (inches)



TO18 METAL PACKAGE

PIN 1 – Emitter PIN 2 – Base PIN 3 – Collector



TO5 METAL PACKAGE

PIN 1 – Emitter PIN 2 – Base PIN 3 – Collector

PNP SILICON PLANAR EPITAXIAL TRANSISTORS

FEATURES

- SILICON PLANAR EPITAXIAL PNP TRANSISTOR

APPLICATIONS:

These PNP silicon planar epitaxial transistors are designed for digital and analog applications at current levels up to 0.5 amps.

ABSOLUTE MAXIMUM RATINGS($T_A = 25^\circ\text{C}$ unless otherwise stated)

		2N3503	2N3502
Maximum Voltages			
V_{CBO}	Collector – Base Voltage	- 60V	-45V
V_{CEO}	Collector – Emitter Voltage	-60V	-45V
V_{EBO}	Emitter – Base Voltage	-5V	-5V
Maximum Power Dissipation			
P_D	Total Dissipation @ 25°C Case Temperature	3 W	1.3 W
P_D	Total Dissipation @ 25°C Free Air Temperature	0.7 W	0.4 W
T_J	Storage Temperature	-65°C to +200°C	
	Operating Junction Temperature		

ELECTRICAL CHARACTERISTICS (25°C free air temperature unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit			
BV _{CBO}	Collector to Base Breakdown Voltage	I _C = 10μA	I _E = 0	2N3503 / 2N3505	-60		V			
				2N3502 / 2N3504	-45					
BV _{EBO}	Emitter to Base Breakdown Voltage	I _E = 10μA	I _C = 0		-5		V			
V _{CEO}	Collector-Emitter Sustaining Voltage	I _C = 10mA	I _B = 0	2N3503 / 2N3505	-60		V			
				2N3502 / 2N3504	-45					
I _{CES}	Collector Cutoff Current	V _{CE} = -50V	V _{BE} = 0	2N3503 / 2N3505		0.07	10	nA		
				2N3502 / 2N3504		0.05	10			
I _{CBO} ⁽¹⁵⁰⁾	Collector Reverse Current	I _E = 0	t = 150°C	V _{CB} = -50V	2N3503 / 2N3505		10	μA		
				V _{CB} = -30V	2N3502 / 2N3504		10			
h _{FE}	DC Current Gain	I _C = 10mA	V _{CE} = -10V		140	270		—		
				I _C = 50mA	V _{CE} = -1.0V		115		160	300
				I _C = 1.0mA	V _{CE} = -10 V		135		200	
				I _C = 150mA	V _{CE} = -10V		100		150	300
				I _C = 10μA	V _{CE} = -10V		80		120	
				I _C = 500mA	V _{CE} = -10 V	t = -55°C	50		70	
V _{CE(sat)}	Collector Saturation Voltage	I _C = 50mA	I _B = 2.5mA			-0.08	-0.25	V		
				I _C = 150mA	I _B = 15mA				-0.18	-0.4
				I _C = 500mA	I _B = 50mA				-0.5	-1.6
V _{BE(sat)}	Base Saturation Voltage	I _C = 50mA	I _B = 2.5mA			-0.9	-1.0	V		
				I _C = 150mA	I _B = 15mA				-1.0	-1.3
				I _C = 500mA	I _B = 50mA					-2.0
F _T	Transition Frequency	I _C = 50mA	V _{CE} = -20V	f = 100MHz	2	2.50		—		
C _{ob}	Output Capacitance	V _{CB} = -10V	I _E = 0			4.5	8.0	pf		
t _{on}	Turn On Time	I _C = 300mA	I _{B1} = 30mA	I _{B2} = -30mA		30	40	ns		
t _{off}	Turn Off Time					65	100			