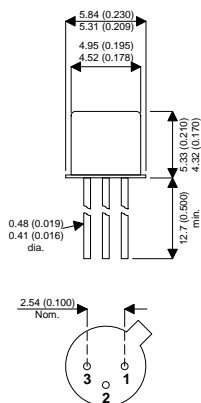


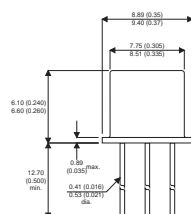
MECHANICAL DATA

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	200°C	

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} Emmitter 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
	V _{CE} = -30V V _{BE} = 0	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		

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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