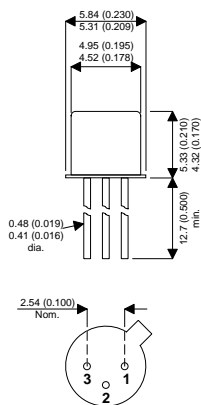


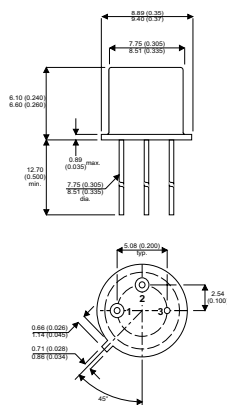
**MECHANICAL DATA**

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
<b>Maximum Voltages</b>			
$V_{CBO}$	Collector – Base Voltage	- 60V	-45V
$V_{CEO}$	Collector – Emitter Voltage	-60V	-45V
$V_{EBO}$	Emitter – Base Voltage	-5V	-5V
<b>Maximum Power Dissipation</b>			
$P_D$	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	$I_C = 10\mu A$ $I_E = 0$	<b>2N3503 / 2N3505</b>	-60			V
		<b>2N3502 / 2N3504</b>	-45			
$BV_{EBO}$ Emmitter to Base Breakdown Voltage	$I_E = 10\mu A$ $I_C = 0$	-5			V	
$V_{CEO}$ Collector-Emitter Sustaining Voltage	$I_C = 10mA$ $I_B = 0$	<b>2N3503 / 2N3505</b>	-60			V
		<b>2N3502 / 2N3504</b>	-45			
$I_{CES}$ Collector Cutoff Current	$V_{CE} = -50V$ $V_{BE} = 0$	<b>2N3503 / 2N3505</b>		0.07	10	nA
	$V_{CE} = -30V$ $V_{BE} = 0$	<b>2N3502 / 2N3504</b>		0.05	10	
$I_{CBO}^{(150)}$ Collector Reverse Current	$I_E = 0$ $t = 150^\circ C$	$V_{CB} = -50V$ <b>2N3503 / 2N3505</b>			10	$\mu A$
		$V_{CB} = -30V$ <b>2N3502 / 2N3504</b>			10	
$h_{FE}$ DC Current Gain	$I_C = 10mA$ $V_{CE} = -10V$		140	270		—
	$I_C = 50mA$ $V_{CE} = -1.0V$		115	160	300	
	$I_C = 1.0mA$ $V_{CE} = -10V$		135	200		
	$I_C = 150mA$ $V_{CE} = -10V$		100	150	300	
	$I_C = 10\mu A$ $V_{CE} = -10V$		80	120		
	$I_C = 500mA$ $V_{CE} = -10V$ $t = -55^\circ C$		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		

This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.