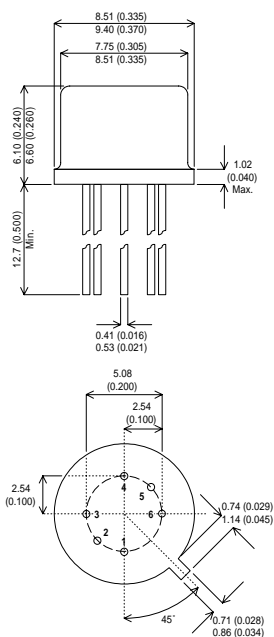


**MECHANICAL DATA**

Dimensions in mm (inches)



**COMPLEMENTARY DUAL  
GENERAL PURPOSE TRANSISTOR  
NPN / PNP SILICON**

**TO77 PACKAGE**

- PIN 1 – Collector
- PIN 2 – Base
- PIN 3 – Emitter
- PIN 4 – Emitter
- PIN 5 – Base
- PIN 6 – Collector

**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

$V_{CEO}$	Collector – Emitter Voltage		30V
$V_{CBO}$	Collector – Base Voltage		50V
$V_{EBO}$	Emitter – Base Voltage		5.0V
$I_C$	Collector Current		500mA
$T_J, T_{stg}$	Operating and Storage Junction Temperature Range		-65 to +200°C
$P_D$	Total Device Dissipation @ $T_A = 25^{\circ}C$ Derate above 25°C	<b>Per Side</b>	<b>Total Device</b>
		575mW 3.29mW/°C	625mW 3.57mW/°C
$P_D$	Total Device Dissipation @ $T_C = 25^{\circ}C$ Derate above 25°C	1.8mW 10.3mW/°C	2.5mW 14.3mW/°C

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
<b>OFF CHARACTERISTICS</b>						
$V_{(BR)CEO^*}$	Collector – Emitter Breakdown Voltage	$I_C = 10\text{mA}$	$I_B = 0$	30	V	
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	$I_C = 10\mu\text{A}$	$I_E = 0$	50		
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	$I_E = 10\mu\text{A}$	$I_C = 0$	5.0		
$I_{BEV}$	Base Cutoff Current	$V_{CE} = 30\text{V}$	$V_{BE} = 3.0\text{V}$		50	
$I_{CEV}$	Collector Cut-off Current	$V_{CB} = 30\text{V}$	$V_{BE(off)} = 3.0\text{V}$		30	
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = 40\text{V}$	$I_E = 0$		100	
<b>ON CHARACTERISTICS</b>						
$h_{FE}$	DC Current Gain	$I_C = 1.0\text{mA}$	$V_{CE} = 10\text{V}$	40	70	—
		$I_C = 150\text{mA}$	$V_{CE} = 10\text{V}$	70	110	
		$I_C = 300\text{mA}$	$V_{CE} = 10\text{V}$	30	90	

<b>THERMAL CHARACTERISTICS</b>		<b>Per Side</b>	<b>Total Device</b>
$R_{\theta JC}$	Thermal Resistance Junction to Case	97°CW	70°CW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient <sup>1</sup>	304°CW	280°CW
<b>Coupling Factor</b>			
	Junction to Ambient	84%	
	Junction to Class		44%

$R_{\theta JA}$  is measured with the device soldered into a typical printed circuit board.<sup>1</sup>

\* Pulse Test:  $t_p \leq 300\mu\text{s}$ ,  $\delta \leq 2\%$ .