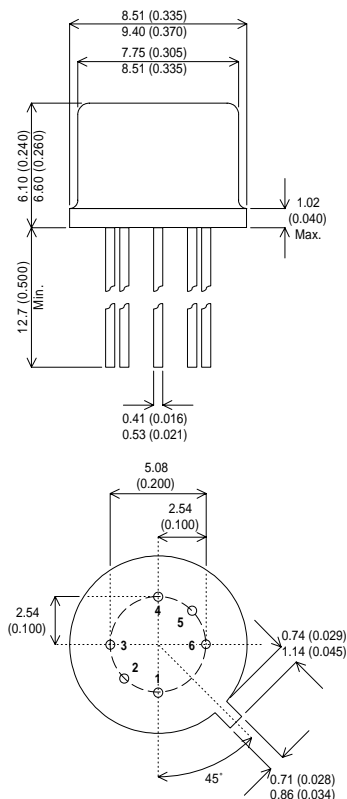


**MECHANICAL DATA**

Dimensions in mm (inches)



**DUAL NPN  
PLANAR TRANSISTORS IN  
TO77 PACKAGE**

**TO-77 PACKAGE**

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

**ABSOLUTE MAXIMUM RATINGS**

( $T_{amb} = 25^{\circ}C$  unless otherwise stated)

			EACH SIDE	TOTAL DEVICE
$V_{CBO}$	Collector – Base Voltage		45V	
$V_{CEO}$	Collector – Emitter Voltage <sup>1</sup>		45V	
$V_{EBO}$	Emitter – Base Voltage		6V	
$I_C$	Continuous Collector Current		30	
$P_D$	Total Device Dissipation	$T_{AMB} = 25^{\circ}C$	300mW	500mW
		Derate above $25^{\circ}C$	1.72mW / $^{\circ}C$	2.86W / $^{\circ}C$
$P_D$	Total Device Dissipation	$T_C = 25^{\circ}C$	750mW	1.5W
		Derate above $25^{\circ}C$	4.3mW / $^{\circ}C$	8.6mW / $^{\circ}C$
$T_{STG}$	Storage Temperature Range		-65 to $200^{\circ}C$	
$T_L$	Lead temperature (Soldering, 10 sec.)		300 $^{\circ}C$	

**NOTES**

- 1. Base – Emitter Diode Open Circuited.

## ELECTRICAL CHARACTERISTICS (T<sub>amb</sub> = 25°C unless otherwise stated)

Parameter	Test Conditions <sup>1</sup>	Min.	Typ.	Max.	Unit
<b>INDIVIDUAL TRANSISTOR CHARACTERISTICS</b>					
V <sub>(BR)CBO</sub>	Collector – Base Breakdown Voltage	I <sub>C</sub> = 10μA	I <sub>E</sub> = 0	45	V
V <sub>(BR)CEO*</sub>	Collector – Emitter Breakdown Voltage	I <sub>C</sub> = 10mA	I <sub>B</sub> = 0	45	
V <sub>(BR)EBO</sub>	Emitter – Base Breakdown Voltage	I <sub>E</sub> = 10μA	I <sub>C</sub> = 0	6	
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> = 45V	I <sub>E</sub> = 0	10	nA
			T <sub>A</sub> = 150°C	10	μA
I <sub>CEO</sub>	Collector Cut-off Current	V <sub>CE</sub> = 5V	I <sub>B</sub> = 0	2	nA
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> = 5V	I <sub>C</sub> = 0	2	
h <sub>FE</sub>	DC Current Gain	V <sub>CE</sub> = 5V	I <sub>C</sub> = 10μA	60	—
				T <sub>A</sub> = -55°C	
		V <sub>CE</sub> = 5V	I <sub>C</sub> = 100μA	100	
		V <sub>CE</sub> = 5V	I <sub>C</sub> = 1mA	150	
V <sub>BE</sub>	Base – Emitter Voltage	V <sub>CE</sub> = 5V	I <sub>C</sub> = 100μA	0.70	V
V <sub>CE(sat)</sub>	Collector – Emitter Saturation Voltage	I <sub>B</sub> = 100μA	I <sub>C</sub> = 1mA	0.35	
h <sub>ib</sub>	Small Signal Common – Base Input Impedance	V <sub>CB</sub> = 5V	I <sub>C</sub> = 1mA	25	Ω
		f = 1kHz		32	
h <sub>ob</sub>	Small Signal Common – Base Output Admittance	V <sub>CB</sub> = 5V	I <sub>C</sub> = 1mA	1	μmho
		f = 1kHz			
h <sub>fe</sub>	Small Signal Common – Base Current Gain	V <sub>CE</sub> = 5V	I <sub>C</sub> = 500μA	3	—
		f = 20MHz			
C <sub>obo</sub>	Common – Base Open Circuit Output Capacitance	V <sub>CB</sub> = 5V	I <sub>E</sub> = 0	6	pF
		f = 140kHz to 1MHz			

\* Pulse Test: t<sub>p</sub> = 300μs, δ ≤ 1%.

Parameter	Test Conditions	2N2915			2N2917			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	
<b>TRANSISTOR MATCHING CHARACTERISTICS</b>								
h <sub>FE1</sub>	Static Forward Current	V <sub>CE</sub> = 5V	I <sub>C</sub> = 100μA	0.9	1	0.8	1	—
h <sub>FE2</sub>	Gain Balance Ratio	See Note 2.						
V <sub>BE1</sub> - V <sub>BE2</sub>	Base – Emitter Voltage Differential	V <sub>CE</sub> = 5V	I <sub>C</sub> = 100μA		3		5	mV
		V <sub>CE</sub> = 5V	I <sub>C</sub> = 10μA to 1mA		5		10	
Δ(V <sub>BE1</sub> - V <sub>BE2</sub> )ΔT <sub>A</sub>	Base – Emitter Voltage Differential Change With Temperature	V <sub>CE</sub> = 5V	I <sub>C</sub> = 100μA		0.8		1.6	mV
		T <sub>A1</sub> = 25°C	T <sub>A2</sub> = -55°C					
		V <sub>CE</sub> = 5V	I <sub>C</sub> = 100μA		1		2	
		T <sub>A1</sub> = 25°C	T <sub>A2</sub> = 125°C					

### NOTES

- 1) Terminals not under test are open circuited under all test conditions.
- 2) The lower of the two readings is taken as h<sub>FE1</sub>.