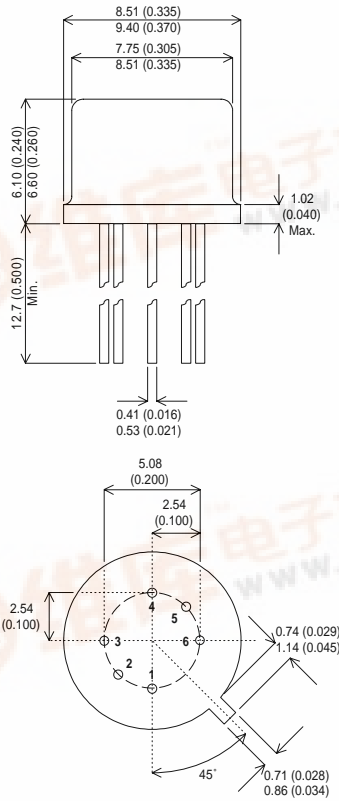




2N2914
2N2916
2N2918

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°C unless otherwise stated)

		EACH SIDE	TOTAL DEVICE	
V _{CB0}	Collector – Base Voltage	45V		
V _{CEO}	Collector – Emitter Voltage ¹	45V		
V _{EBO}	Emitter – Base Voltage	6V		
I _C	Continuous Collector Current	30		
P _D	Total Device Dissipation	T _{AMB} = 25°C	300mW	500mW
		Derate above 25°C	1.72mW / °C	2.86W / °C
P _D	Total Device Dissipation	T _C = 25°C	750mW	1.5W
		Derate above 25°C	4.3mW / °C	8.6mW / °C
T _{STG}	Storage Temperature Range	-65 to 200°C		
T _L	Lead temperature (Soldering, 10 sec.)	300°C		

¹ Base – Emitter Diode Open Circuited.



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

Parameter	Test Conditions ¹	Min.	Typ.	Max.	Unit	
INDIVIDUAL TRANSISTOR CHARACTERISTICS						
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	$I_C = 10\mu\text{A}$	$I_E = 0$	45	V	
$V_{(BR)CEO^*}$	Collector – Emitter Breakdown Voltage	$I_C = 10\text{mA}$	$I_B = 0$	45		
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	$I_E = 10\mu\text{A}$	$I_C = 0$	6		
I_{CBO}	Collector Cut-off Current	$V_{CB} = 45\text{V}$	$I_E = 0$		10	nA
			$T_A = 150^{\circ}\text{C}$			10
I_{CEO}	Collector Cut-off Current	$V_{CE} = 5\text{V}$	$I_B = 0$		2	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}$	$I_C = 0$		2	
h_{FE}	DC Current Gain	$V_{CE} = 5\text{V}$	$I_C = 10\mu\text{A}$	150	600	—
			$T_A = -55^{\circ}\text{C}$	30		
		$I_C = 100\mu\text{A}$	225			
		$I_C = 1\text{mA}$	300			
V_{BE}	Base – Emitter Voltage	$V_{CE} = 5\text{V}$	$I_C = 100\mu\text{A}$		0.70	V
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage	$I_B = 100\mu\text{A}$	$I_C = 1\text{mA}$		0.35	
h_{ib}	Small Signal Common – Base Input Impedance	$V_{CB} = 5\text{V}$	$I_C = 1\text{mA}$	25	32	Ω
		$f = 1\text{kHz}$				
h_{ob}	Small Signal Common – Base Output Admittance	$V_{CB} = 5\text{V}$	$I_C = 1\text{mA}$		1	μmho
		$f = 1\text{kHz}$				
$ h_{fe} $	Small Signal Common – Base Current Gain	$V_{CE} = 5\text{V}$	$I_C = 500\mu\text{A}$	3		—
		$f = 20\text{MHz}$				
C_{obo}	Common – Base Open Circuit Output Capacitance	$V_{CB} = 5\text{V}$	$I_E = 0$		6	pF
		$f = 140\text{kHz to } 1\text{MHz}$				

* Pulse Test: $t_p = 300\mu\text{s}$, $\delta \leq 1\%$.

Parameter	Test Conditions	2N2916			2N2918			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	
TRANSISTOR MATCHING CHARACTERISTICS								
h_{FE1}	Static Forward Current	$V_{CE} = 5\text{V}$	$I_C = 100\mu\text{A}$	0.9	1	0.8	1	—
h_{FE2}	Gain Balance Ratio	See Note 2.						
$ V_{BE1} - V_{BE2} $	Base – Emitter Voltage Differential	$V_{CE} = 5\text{V}$	$I_C = 100\mu\text{A}$		3		5	mV
		$V_{CE} = 5\text{V}$	$I_C = 10\mu\text{A to } 1\text{mA}$		5		10	
$ \Delta(V_{BE1} - V_{BE2})/\Delta T_A $	Base – Emitter Voltage Differential Change With Temperature	$V_{CE} = 5\text{V}$	$I_C = 100\mu\text{A}$		0.8		1.6	mV
		$T_{A1} = 25^{\circ}\text{C}$	$T_{A2} = -55^{\circ}\text{C}$					
		$V_{CE} = 5\text{V}$	$I_C = 100\mu\text{A}$		1		2	
		$T_{A1} = 25^{\circ}\text{C}$	$T_{A2} = 125^{\circ}\text{C}$					

NOTES

1) Terminals not under test are open circuited under all test conditions.

2) The lower of the two readings is taken as h_{FE1} .