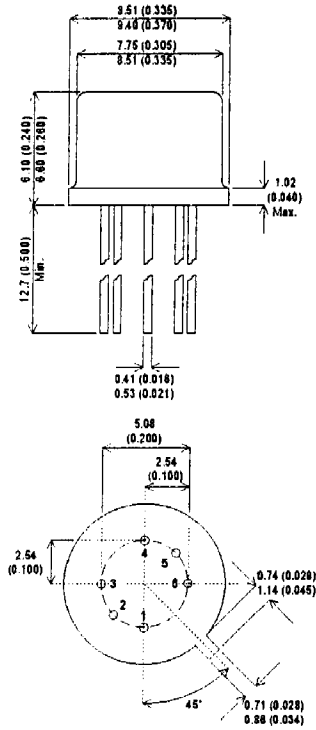


MECHANICAL DATA

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 _{CBO}	Collector – Base Voltage		60V	
V _{CEO}	Collector – Emitter Voltage ¹		60V	
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	



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

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C unless otherwise stated)

Parameter	Test Conditions ¹	Min.	Typ.	Max.	Unit
INDIVIDUAL TRANSISTOR CHARACTERISTICS					
V _{(BR)CBO}	Collector – Base Breakdown Voltage	I _C = 10μA I _E = 0	60		V
V _{(BR)CEO}	Collector – Emitter Breakdown Voltage	I _C = 10mA I _B = 0	60		
V _{(BR)EBO}	Emitter – Base Breakdown Voltage	I _E = 10μA I _C = 0	6		
I _{CBO}	Collector Cut-off Current	V _{CB} = 45V I _E = 0 T _A = 150°C		2 10	nA μA
I _{CEO}	Collector Cut-off Current	V _{CE} = 5V I _B = 0		2	nA
I _{EBO}	Emitter Cut-off Current	V _{EB} = 5V I _C = 0		2	
h _{FE}	DC Current Gain	V _{CE} = 5V I _C = 10μA T _A = -55°C	150 40		—
		V _{CE} = 5V I _C = 100μA	225		
		V _{CE} = 5V I _C = 1mA	300		
V _{BE}	Base – Emitter Voltage	V _{CE} = 5V I _C = 100μA		0.70	V
V _{CE(sat)}	Collector – Emitter Saturation Voltage	I _B = 100μA I _C = 1mA		0.35	
h _{ib}	Small Signal Common – Base Input Impedance	V _{CB} = 5V I _C = 1mA f = 1kHz	25	32	Ω
h _{ob}	Small Signal Common – Base Output Admittance	V _{CB} = 5V I _C = 1mA f = 1kHz		1	μmho
h _{fe}	Small Signal Common – Base Current Gain	V _{CE} = 5V I _C = 500μA f = 20MHz	3		—
C _{obo}	Common – Base Open Circuit Output Capacitance	V _{CB} = 5V I _E = 0 f = 140kHz to 1MHz		6	pF

* Pulse Test: t_p = 300μs, δ ≤ 1%.

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