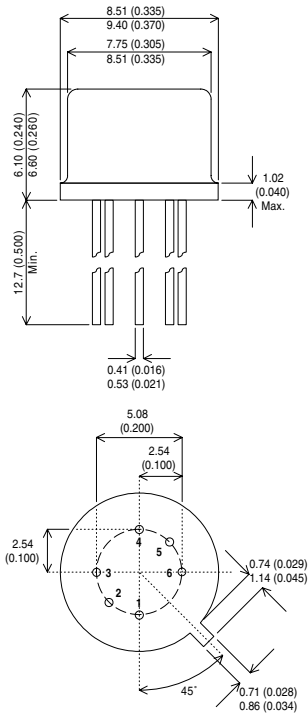


MECHANICAL DATA

Dimensions in mm (inches)



**DUAL NPN
PLANAR TRANSISTORS IN
TO77 PACKAGE**

TO-77 PACKAGE (MO - 002AF)

Underside View

- 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	75V	
V_{CEO}	Collector – Emitter Voltage	40V	
V_{EBO}	Emitter – Base Voltage	6V	
I_C	Continuous Collector Current	600mA	
P_D	Total Device Dissipation	$T_{AMB} = 25^{\circ}C$	600mW
		Derate above $25^{\circ}C$	2.9mW / $^{\circ}C$
P_D	Total Device Dissipation	$T_C = 25^{\circ}C$	2.0W
		Derate above $25^{\circ}C$	6.9mW / $^{\circ}C$
T_{STG}	Storage Temperature Range	-65 to $200^{\circ}C$	

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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	$I_C = 10\mu\text{A}$ $I_E = 0$	75		V
$V_{(BR)CEO}^*$	Collector – Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	40		
$V_{(BR)EBO}$	Emitter –Base Breakdown Voltage	$I_E = 10\mu\text{A}$ $I_C = 0$	6		
I_{CBO}	Collector Cut-off Current	$V_{CB} = 50\text{V}$ $I_E = 0$		10	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 4.0\text{V}$ $I_C = 0$		10	nA
I_{C1-C2}	Collector1-2 Leakage Current	$V_{C1-C2} = \pm 50\text{V}$		± 1.0	nA
h_{FE}^*	DC Current Gain	$V_{CE} = 10\text{V}$ $I_C = 100\mu\text{A}$	35		—
		$V_{CE} = 10\text{V}$ $I_C = 1\text{mA}$	50		
		$V_{CE} = 10\text{V}$ $I_C = 10\text{mA}$	75		
		$V_{CE} = 1.0\text{V}$ $I_C = 150\text{mA}$	50		
		$V_{CE} = 10\text{V}$ $I_C = 150\text{mA}$	100	300	
$V_{BE(sat)}^*$	Base – Emitter Saturation Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$	0.6	1.2	V
		$I_C = 300\text{mA}$ $I_B = 30\text{mA}$		1.8	
$V_{CE(sat)}^*$	Collector – Emitter saturation Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$		0.3	V
		$I_C = 300\text{mA}$ $I_B = 30\text{mA}$		0.9	
SMALL SIGNAL CHARACTERISTICS					
f_T	Transition Frequency	$I_C = 20\text{mA}$ $V_{CE} = 20\text{V}$ $f = 100\text{MHz}$	250		MHz
C_{cb}	Collector - base Capacitance	$V_{CB} = 10\text{V}$ $I_E = 0$ $f = 100\text{kHz}$		8.0	pF
C_{eb}	Emitter- base Capacitance	$V_{EB} = 0.5\text{V}$ $I_C = 0$ $f = 100\text{kHz}$		25	pF
SWITCHING CHARACTERISTICS					
t_d	Delay Time	$V_{CC} = 30\text{V}$ $V_{BE(off)} = 0.5\text{V}$		15	ns
t_r	Rise Time	$I_C = 150\text{mA}$ $I_{B1} = 15\text{mA}$		30	ns
t_s	Storage Time	$V_{CC} = 30\text{V}$ $I_C = 150\text{mA}$		250	ns
t_f	Fall Time	$I_{B1} = I_{B2} = 15\text{mA}$		60	ns

* Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $< 2\%$

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