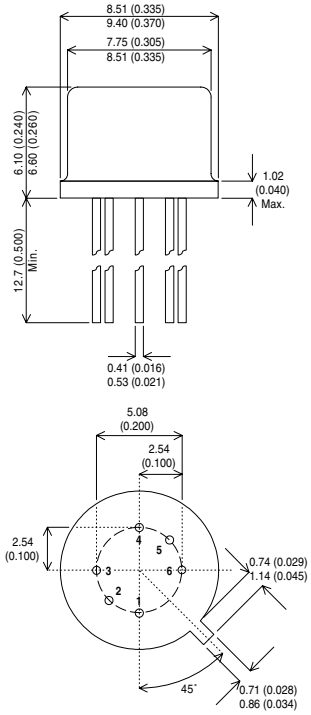
2N5794

MECHANICAL DATA

Dimensions in mm (inches)



TO–77 PACKAGE (MO - 002AF)

Underside View

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

DUAL NPN PLANAR TRANSISTORS IN TO77 PACKAGE

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25°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°C	500mW	600mW
		Derate above 25°C	2.9mW / °C	3.4Wm/ °C
P_D	Total Device Dissipation	T_C = 25°C	1.2W	2.0W
		Derate above 25°C	6.9mW / °C	11.43mW / °C
T_{STG}	Storage Temperature Range		–65 to 200°C	

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Document Number 6068
Issue 1

SEME LAB

2N5794

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

* Pulse Width ≤ 300µs , Duty Cycle < 2%

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