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NPN SMALL SIGNAL GENERAL PURPOSE AMPLIFIER

ABSOLUTE MAXIMUM RATINGS [Note 1]	
Maximum Temperatures	
Storage Temperature	-55°C to +125°C
Operating Junction Temperature	125°C Maximum
Soldering Temperature (10 sec time limit)	260°C Maximum
Maximum Power Dissipation	
Total Dissipation at 25°C Case Temperature [Note 2]	0.5 Watt
at 65°C Case Temperature [Note 2]	0.3 Watt
at 25°C Ambient Temperature [Note 2]	0.2 Watt
Maximum Voltages	
V _{CBO} Collector to Base Voltage	35 Volts
V _{CEO} Collector to Emitter Voltage [Note 3]	25 Volts
V _{EBO} Emitter to Base Voltage	4.0 Volts



ELECTRICAL CHARACTERISTICS (25*C Free Air Temperature unless otherwise noted)

Symbol	Characteristic	Min,	Max.	Units	Test Conditions
h _{FE}	DC Pulse Current Gain [Note 4]	40	160		$I_{C} = 10 \text{ mA} \text{ V}_{CE} = 1.0 \text{ V}$
^h fe	High Frequency Current Gain (f=100 MHz)	2.0			$I_{C} = 10 \text{ mA} \text{ V}_{CE} = 15 \text{ V}$
$v_{CE}^{(sat)}$	Collector Saturation Voltage		0.7	Volts	$I_{\rm C} = 10 \text{ mA}$ $I_{\rm C} = 1.0 \text{ mA}$
V _{BE} (sat)	Base Saturation Voltage		0.9	Volts	$\frac{1}{C} = 10 \text{ mA} \text{ I}_{\text{B}} = 1.0 \text{ mA}$
^I сво	Collector Cutoff Current		50	n A	C B
I _{CBO} (65°C)	Collector Cutoff Current		5.0	μΛ	E CB
C _{obo}	Common-Base, Open-Circuit Output Capacitance		6.0	pF	E CB VV
V _{CEO} (sust)	Collector to Emitter Sustaining Voltage [Notes 3 and 4]	25		Volts	$I_{E} \doteq 0 \qquad V_{CB} = 10 V$ $I_{C} \doteq 10 \text{ mA} I_{B} = 0$ $(pulsed)$
вусво	Collector to Base Breakdown Voltage	35		Volts	
BVEBO	Emitter to Base Breakdown Voltage	4.0		Volts	$I_{C} = 100 \ \mu X \ I_{E} = 0$ $I_{C} = 0 \ I_{E} = 10 \ \mu A$

NOTES:

(1) These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.

(2) These ratings give a maximum junction temperature of 125°C and junction-to-case thermal resistance of 200°C/Watt (derating factor of 5.0 mW/°C); junction-to-ambient thermal resistance of 500°C/Watt (derating factor of 2.0 mW/°C).

- (3) Rating refers to a high-current point where collector-to-emitter voltage is lowest.
- (4) Pulse Conditions: length = 300 μ s; duty cycle = 1%.



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