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NPN SMALL SIGNAL GENERAL PURPOSE AMPLIFIER AND SWITCH

ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures

Storage Temperature	−65°C to +200°C
Operating Junction Temperature	200°C

Maximum Power Dissipation (Notes 2 & 3)

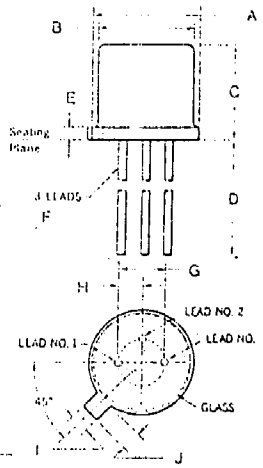
Total Dissipation at 25°C Ambient Temperature	0.36 mW
at 25°C Case Temperature	1.2 W

Maximum Voltages and Current

V_{CEO}	Collector to Emitter Voltage	40 V
V_{CBO}	Collector to Base Voltage	60 V
V_{EBO}	Emitter to Base Voltage	6.0 V
I_C	Collector Current	200 mA

PHYSICAL DIMENSIONS

DIM.	INCHES MIN.	INCHES TYP.	INCHES MAX.	MILLIMETERS MIN.	MILLIMETERS TYP.	MILLIMETERS MAX.
A	.209		.230	5.31		5.84
B	.178		.195	4.52		4.95
C	.170		.210	4.32		5.33
D	.500			12.70		
E			.030			0.762
F	.016		.019	0.406		0.483
G		.100			2.54	
H		.050			1.27	
I	.036		.046	0.914		1.17
J	.028		.048	0.711		1.22



NOTES: See table for dimensions in inches and millim
Leads are gold-plated kovar
Lead No. 3 connected to case
Package weight is 0.44 grams

ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN.	MAX.	UNITS	TEST CONDITIONS
BV_{CBO}	Collector to Base Breakdown Voltage	60		V	I_C = 10 μA, I_E = 0
BV_{CEO}	Collector to Emitter Breakdown Voltage (Note 4)	40		V	I_C = 10 mA, I_B = 0
BV_{EBO}	Emitter to Base Breakdown Voltage	6.0		V	I_E = 10 μA, I_C = 0
I_{CEX}	Collector Cutoff Current		10	nA	V_{CE} = 40 V, V_{EB} = 3.0 V
			15	μA	V_{CE} = 40 V, V_{EB} = 3.0 V, T_A = 150°C
I_{BL}	Base Cutoff Current		25	nA	V_{CE} = 40 V, V_{EB} = 3.0 V
h_{FE}	DC Current Gain (Note 4)	30			I_C = 0.1 mA, V_{CE} = 1.0 V
		45			I_C = 1.0 mA, V_{CE} = 1.0 V
		50	150		I_C = 10 mA, V_{CE} = 1.0 V
		20			I_C = 50 mA, V_{CE} = 1.0 V
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage (Note 4)		0.2	V	I_C = 10 mA, I_B = 1.0 mA
			0.3	V	I_C = 50 mA, I_B = 5.0 mA
$V_{BE(sat)}$	Base to Emitter Saturation Voltage (Note 4)	0.6	0.9	V	I_C = 10 mA, I_B = 1.0 mA
			1.0	V	I_C = 50 mA, I_B = 5.0 mA
h_{fe}	Current Gain Bandwidth Product	2.5			I_C = 10 mA, V_{CE} = 20 V, f = 100 MHz
C_{ob}	Output Capacitance		4.0	pF	I_E = 0, V_{CB} = 10 V, f = 100 kHz
C_{ib}	Input Capacitance		8.0	pF	V_{EB} = 1.0 V, I_C = 0, f = 100 kHz
h_{ie}	Input Impedance	0.5	6.0	kΩ	I_C = 1.0 mA, V_{CE} = 10 V, f = 1.0 kHz
h_{re}	Voltage Feedback Ratio		10	x10−4	I_C = 1.0 mA, V_{CE} = 10 V, f = 1.0 kHz
h_{fe}	Small Signal Current Gain	50	250		I_C = 1.0 mA, V_{CE} = 10 V, f = 1.0 kHz
h_{oe}	Output Admittance	1.0	30	μmhos	I_C = 1.0 mA, V_{CE} = 10 V, f = 1.0 kHz
NF	Noise Figure		5.0	dB	I_C = 100 μA, V_{CE} = 5.0 V, R_G = 1.0 kΩ
					f = 10 Hz to 15.7 kHz