

2N4140

NPN SMALL SIGNAL GENERAL PURPOSE AMPLIFIER AND SWITCH

Maximum Voltages and Current

V _{CB0}	Collector to Base Voltage	60 V
V _{CE0}	Collector to Emitter Voltage (Note 4)	30 V
V _{EB0}	Emitter to Base Voltage	5.0 V
I _C	Collector Current	800 mA

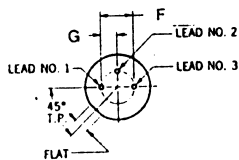
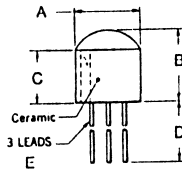
ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN. MAX.		UNITS	TEST CONDITIONS
h _{FE}	DC Current Gain (Note 5)	40	120		I _C = 150 mA, V _{CE} = 10 V
		20			I _C = 150 mA, V _{CE} = 1.0 V
		35			I _C = 10 mA, V _{CE} = 10 V
		25			I _C = 1.0 mA, V _{CE} = 10 V
		20			I _C = 0.1 mA, V _{CE} = 10 V
		20			I _C = 500 mA, V _{CE} = 10 V
V _{CE (sat)}	Collector to Emitter Saturation Voltage (Note 5)		0.4	V	I _C = 150 mA, I _B = 15 mA
V _{BE (sat)}	Base to Emitter Saturation Voltage (Note 5)		1.6	V	I _C = 500 mA, I _B = 50 mA
I _{CB0}	Collector Cutoff Current		10	nA	I _E = 0, V _{CB} = 50 V
I _{EB0}	Emitter Cutoff Current		10	nA	I _E = 0, V _{CB} = 50 V, T _A = 150°C
BV _{CB0}	Collector to Base Breakdown Voltage	60		V	I _C = 0, V _{EB} = 3.0 V
V _{CE0 (sus)}	Collector to Emitter Sustaining Voltage (Note 5)	30		V	I _C = 10 mA (pulsed), I _B = 0
BV _{EB0}	Emitter to Base Breakdown Voltage	5.0		V	I _E = 10 μA, I _C = 0

4. Rating refers to a high current point where collector to emitter voltage is lowest.
5. Pulse Conditions: length = 300 μs; duty cycle <2%.

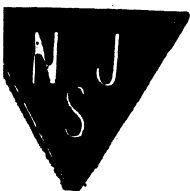
PHYSICAL DIMENSIONS

TO-106



- NOTES: See table for dimensions in inches and millimeters
Leads 4 and 8 omitted
Internal lead No. 3 length is 110 mils
Lead No. 3 club head length is 85 mils
Leads 1 and 2 are gold-plated nickel
Lead No. 3 is gold-plated copper alloy
Packaged weight is 0.31 grams

DIM.	INCHES			MILLIMETERS		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	.192		.222	4.88		5.64
B			.240			5.90
C	.100		.120	2.54		3.05
D	.500			12.40		
E	.016		.019	0.406		0.483
F		.100			2.54	
G		.050			1.27	



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