

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)

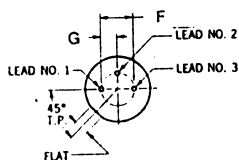
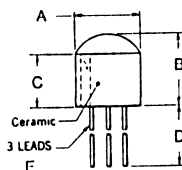
SYMBOL	CHARACTERISTIC			UNITS	TEST CONDITIONS
		MIN.	MAX.		
h_{FE}	DC Current Gain (Note 5)	40	120		$I_C = 150 \text{ mA}, V_{CE} = 10 \text{ V}$ $I_C = 150 \text{ mA}, V_{CE} = 1.0 \text{ V}$ $I_C = 10 \text{ mA}, V_{CE} = 10 \text{ V}$ $I_C = 1.0 \text{ mA}, V_{CE} = 10 \text{ V}$ $I_C = 0.1 \text{ mA}, V_{CE} = 10 \text{ V}$ $I_C = 500 \text{ mA}, V_{CE} = 10 \text{ V}$
$V_{CE}(\text{sat})$	Collector to Emitter Saturation Voltage (Note 5)		0.4	V	$I_C = 150 \text{ mA}, I_B = 15 \text{ mA}$ $I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$
$V_{BE}(\text{sat})$	Base to Emitter Saturation Voltage (Note 5)		1.3	V	$I_C = 150 \text{ mA}, I_B = 15 \text{ mA}$
I_{CBO}	Collector Cutoff Current		10	nA	$I_E = 0, V_{CB} = 50 \text{ V}$
I_{EBO}	Emitter Cutoff Current		10	nA	$I_E = 0, V_{CB} = 50 \text{ V}, T_A = 150^\circ\text{C}$
BVC_{BO}	Collector to Base Breakdown Voltage	60		V	$I_C = 0, V_{EB} = 3.0 \text{ V}$
$V_{CE0}(\text{sus})$	Collector to Emitter Sustaining Voltage (Note 5)	30		V	$I_C = 10 \text{ mA (pulsed)}, I_B = 0$
BVE_{BO}	Emitter to Base Breakdown Voltage	5.0		V	$I_E = 10 \text{ }\mu\text{A}, I_C = 0$

4. Rating refers to a high current point where collector to emitter voltage is lowest.

5. Pulse Conditions: length = 300 μs ; duty cycle $\leq 2\%$.

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	



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice.
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