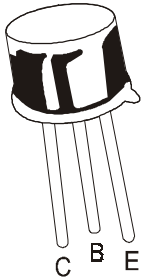


**PNP SILICON PLANAR TRANSISTORS**

**2N4030, 2N4031  
2N4032, 2N4033**



**TO-39  
Metal Can Package**

**2N4030 And 2N4033 ARE PNP SMALL SIGNAL GENERAL PURPOSE AMPLIFIER, TRANSISTORS.**

**ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)**

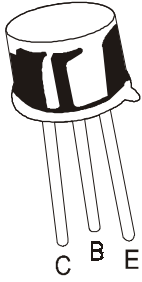
DESCRIPTION	SYMBOL	2N4030,32	2N4031, 33	UNITS
Collector Emitter Voltage	$V_{CEO}$	60	80	V
Collector Base Voltage	$V_{CBO}$	60	80	V
Emitter Base Voltage	$V_{EBO}$		5	V
Collector Current	$I_{CM}$		1	A
Power Dissipation @ Ta=25°C	$P_D$		800	mW
Derate Above 25°C			4.6	mW/°C
Power Dissipation @ Tc=25°C	$P_D$		4	W
Derate Above 25°C			22.85	mW/°C
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$		-65 to +200	°C

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS		
Collector Emitter Breakdown Voltage	$BV_{CEO}^*$	$I_C=10mA, I_B=0$					
			2N4030, 4032	60		V	
			2N4031, 4033	80		V	
Collector Base Breakdown Voltage	$BV_{CBO}$	$I_C=10\mu A, I_E=0$					
			2N4030, 4032	60		V	
			2N4031, 4033	80		V	
Emitter Base Breakdown Voltage	$BV_{EBO}$	$I_E=10\mu A, I_C=0$	5		V		
Collector Leakage Current	$I_{CBO}$	$V_{CB}=50V, I_E=0$					
			2N4030, 4032		50	nA	
			2N4030, 4032	$V_{CB}=50V, T_A=150^\circ C$	50		$\mu A$
			2N4031, 4033	$V_{CB}=60V, I_E=0$	50		nA
			2N4031, 4033	$V_{CB}=60V, T_A=150^\circ C$	50		$\mu A$
Emitter Leakage Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$		10	$\mu A$		

# PNP SILICON PLANAR TRANSISTORS

2N4030, 2N4031  
2N4032, 2N4033



TO-39  
Metal Can Package

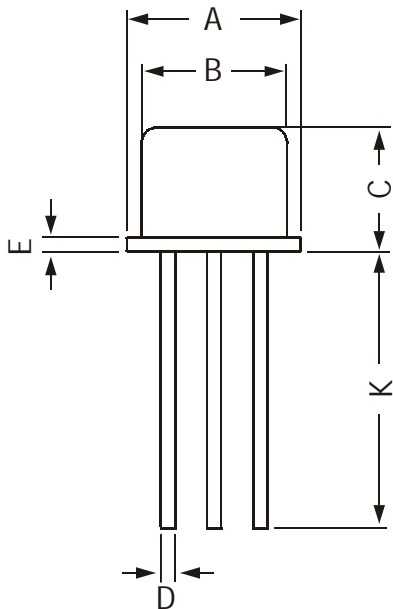
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$ *	$I_C=150mA, I_B=15mA$		0.15	V
		$I_C=500mA, I_B=50mA$		0.5	V
		$I_C=1A, I_B=100mA$		1.0	V
2N4030, 4032					
Base Emitter Saturation Voltage	$V_{BE(Sat)}$ *	$I_C=150mA, I_B=15mA$		0.9	V
Base Emitter on Voltage	$V_{BE(on)}$ *	$I_C=500mA, V_{CE}=0.5V$		1.1	V
2N4030, 4032		$I_C=1A, V_{CE}=1V$		1.2	V
<b>DC Current Gain</b>					
2N4030, 4031	$h_{FE}$ *	$I_C=100mA, V_{CE}=5V$	30		
			75		
2N4032, 4033		$I_C=100mA, V_{CE}=5V$	40	120	
			100	300	
2N4030, 4031		$I_C=500mA, V_{CE}=5V$	25		
			70		
2N4030, 4031		$I_C=100mA, V_{CE}=5V,$ $T_a=-55^\circ C$	15		
			40		
2N4032, 4033			15		
			10		
2N4030		$I_C=1A, V_{CE}=5V$	15		
2N4031			10		
2N4032			40		
2N4033			25		

## SMALL SIGNAL CHARACTERISTICS

Transition Frequency	$f_T$	$I_C=50mA, V_{CE}=10V,$ $f=100MHz$	100	400	MHz
			150	500	MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$		20	pF
Input Capacitance	$C_{ib}$	$V_{BE}=0.5V, I_C=0, f=1MHz$		110	pF
Turn on Time	$t_{on}$	$I_C=500mA, I_{B1}=50mA$		100	nS
Storage Time	$t_{on}$	$I_C=500mA, I_{B1}=I_{B2}=50mA$		350	nS
Fall Time	$t_f$	$I_C=500mA, I_{B1}=I_{B2}=50mA$		50	nS

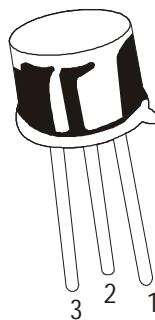
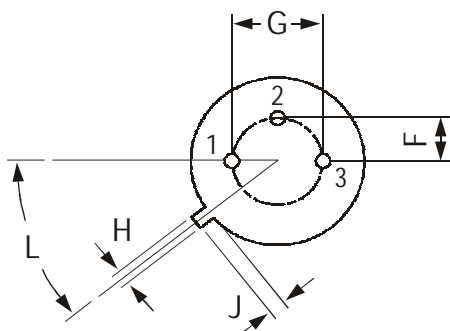
\*Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$

TO-39 Metal Can Package



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG



PIN CONFIGURATION

- 1. EMITTER
- 2. BASE
- 3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3" x 7.5" x 7.5"	20K	17" x 15" x 13.5"	32K	40 kgs

### **Disclaimer**

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