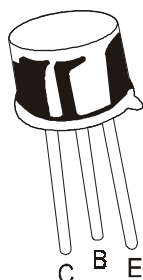


PNP SILICON PLANAR TRANSISTORS



2N4030, 2N4031
2N4032, 2N4033

TO-39
Metal Can Package

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

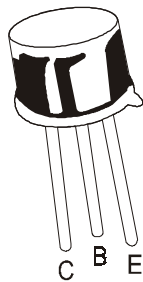
ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)

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	μA
2N4031, 4033		$V_{CB}=60V, I_E=0$		50	nA
2N4031, 4033		$V_{CB}=60V, T_A=150^\circ C$		50	μA
Emitter Leakage Current	I_{EBO}	$V_{EB}=5V, I_C=0$		10	μA

PNP SILICON PLANAR TRANSISTORS



2N4030, 2N4031
2N4032, 2N4033

TO-39
Metal Can Package

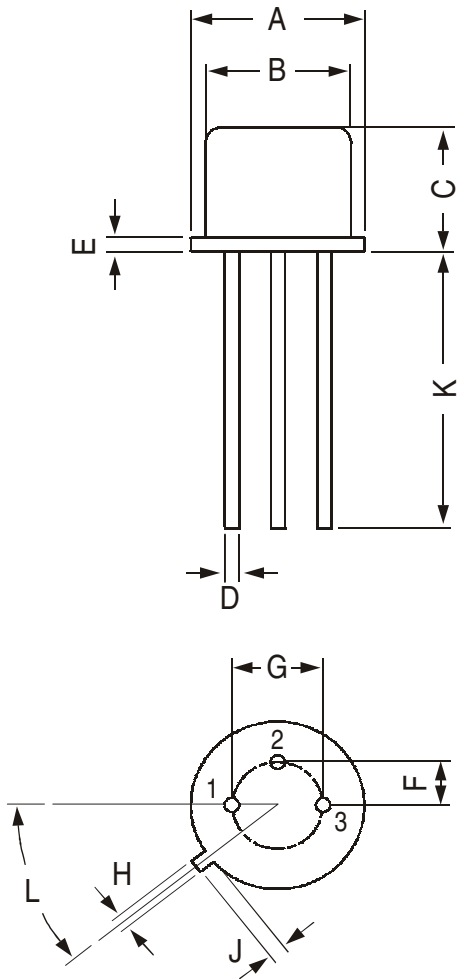
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$ *	$I_C=150mA, I_B=15mA$		0.15	V
		$I_C=500mA, I_B=50mA$		0.5	V
		$I_C=1A, I_B=100mA$		1.0	V
2N4030, 4032					
Base Emitter Saturation Voltage	$V_{BE(Sat)}$ *	$I_C=150mA, I_B=15mA$		0.9	V
Base Emitter on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

SMALL SIGNAL CHARACTERISTICS

Transition Frequency	f_T				
2N4030, 4031		$I_C=50mA, V_{CE}=10V,$	100	400	MHz
2N4032, 4033		$f=100MHz$	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

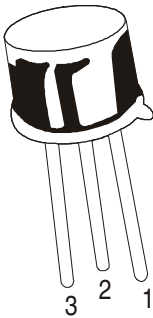
*Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

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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