



PNP 2N4030 – 2N4031 – 2N4032 – 2N4033

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

They are silicon planar epitaxial PNP transistors mounted in TO-39 metal package.
 They are intended for large signal, low noise industrial applications.
 Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit	
$-V_{CBO}$	Collector-Base Voltage $I_E = 0$	2N4030	60	V
		2N4031	80	
		2N4032	60	
		2N4033	80	
$-V_{CEO}$	Collector-Emitter Voltage $I_B = 0$	2N4030	60	V
		2N4031	80	
		2N4032	60	
		2N4033	80	
$-V_{EBO}$	Emitter-Base Voltage $I_C = 0$	2N4030	5	V
		2N4031		
		2N4032		
		2N4033		
$-I_C$	Collector Current	2N4030	1	A
		2N4031		
		2N4032		
		2N4033		
P_{tot}		@ $T_{case} = < 25^\circ$	4	W
		@ $T_{amb} = < 25^\circ$	0.8	
T_J	Junction Temperature	200	$^\circ C$	
T_{Stg}	Storage Temperature range	-65 to +200	$^\circ C$	

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-c}	Thermal Resistance, Junction-case	44	K/ W
$R_{thJ-amb}$	Thermal Resistance, Junction-ambient	218	K/ W

PNP 2N4030 – 2N4031 – 2N4032 – 2N4033

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit		
$-I_{CBO}$	Collector Cutoff Current	$I_E = 0, V_{CB} = 50\text{ V}$	2N4030	-	-	50	nA	
		$I_E = 0, V_{CB} = 60\text{ V}$	2N4031					
		$I_E = 0 ; V_{T_{amb}} = 150^\circ\text{C}$	$V_{CB} = 50\text{ V}$	2N4030	-	-	50	μA
			$V_{CB} = 60\text{ V}$	2N4031				
		$I_E = 0, V_{CB} = 50\text{ V}$	$I_E = 0, V_{CB} = 60\text{ V}$	2N4032	-	-	50	nA
				2N4033				
		$I_E = 0 ; V_{T_{amb}} = 150^\circ\text{C}$	$V_{CB} = 50\text{ V}$	2N4032	-	-	50	μA
$V_{CB} = 60\text{ V}$	2N4033							
$-V_{CBO}$	Collector – Base Breakdown Voltage	$-I_C = 10\ \mu\text{A}$ $I_E = 0$	2N4030	60	-	-	V	
			2N4031	80	-	-		
			2N4032	60	-	-		
			2N4033	80	-	-		
$-V_{CE0} (*)$	Collector – Emitter Breakdown Voltage	$-I_C = 10\ \text{mA}$ $I_B = 0$	2N4030	60	-	-	V	
			2N4031	80	-	-		
			2N4032	60	-	-		
			2N4033	80	-	-		
$-V_{EBO}$	Emitter – Base Breakdown Voltage	$-I_E = 10\ \mu\text{A}$ $I_C = 0$	2N4030	5	-	-	V	
			2N4031					
			2N4032					
			2N4033					
$-V_{CE(SAT)} (*)$	Collector-Emitter Saturation Voltage	$-I_C = 150\ \text{mA}, -I_B = 15\ \text{mA}$		-	-	0.15	V	
		$-I_C = 500\ \text{mA}, -I_B = 50\ \text{mA}$		-	-	0.5		
		$-I_C = 1\ \text{A}, -I_B = 100\ \text{mA}$	2N4030	-	-	1		
			2N4032	-	-	1		
$-V_{BE} (*)$	Base-Emitter Saturation Voltage	$-I_C = 150\ \text{mA}, -I_B = 15\ \text{mA}$		-	-	0.9		
		$-I_C = 500\ \text{mA}, -I_B = 50\ \text{mA}$		-	-	1.1		
		$-I_C = 1\ \text{A}, -I_B = 100\ \text{mA}$	2N4030	-	-	1.2		
			2N4032	-	-	1.2		

PNP 2N4030 – 2N4031 – 2N4032 – 2N4033

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

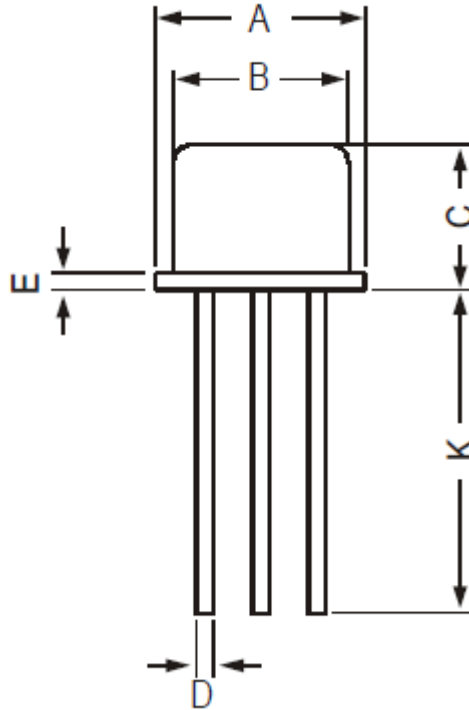
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
h_{FE} (*)	DC Current Gain	$-I_C = 100 \mu\text{A}, -V_{CE} = 5 \text{ V}$	2N4030	30	-	-
			2N4031			
			2N4032			
			2N4033			
		$-I_C = 100 \text{ mA}, -V_{CE} = 5 \text{ V}$	2N4030	40	-	120
			2N4031			
			2N4032			
			2N4033			
		$-I_C = 500 \text{ mA}, -V_{CE} = 5 \text{ V}$	2N4030	25	-	-
			2N4031			
			2N4032			
			2N4033			
		$-I_C = 1 \text{ A}, -V_{CE} = 5 \text{ V}$	2N4030	15	-	-
			2N4031			
			2N4032			
			2N4033			
$-I_C = 100 \text{ mA}, -V_{CE} = 5 \text{ V}$ $T_{\text{amb}} = -55^\circ\text{C}$	2N4030	15	-	-		
	2N4031					
	2N4032					
	2N4033					
f_T	Transition Frequency	$-I_C = 50 \text{ mA}, -V_{CE} = 10 \text{ V}$ $f = 100 \text{ MHz}$	2N4030	100	-	400
			2N4031			
			2N4032			
			2N4033			
C_{EBO}	Emitter – base Capacitance	$I_C = 0, -V_{EB} = 0.5 \text{ V}$ $f = 1 \text{ MHz}$	-	-	110	pF
C_{CB0}	Collector – base Capacitance	$I_E = 0, -V_{CB} = 10 \text{ V}$ $f = 1 \text{ MHz}$	-	-	20	pF
t_s	Storage times	$-I_C = 500 \text{ mA}, -V_{CC} = 30 \text{ V}$ $-I_{B1} = -I_{B1} = 50 \text{ mA}$	-	-	350	ns
t_f	Fall times	$-I_C = 500 \text{ mA}, -V_{CC} = 30 \text{ V}$ $-I_{B1} = -I_{B1} = 50 \text{ mA}$	-	-	50	ns
t_{on}	Turn-on times	$-I_C = 500 \text{ mA}, -V_{CC} = 30 \text{ V}$ $-I_{B1} = -I_{B1} = 50 \text{ mA}$	-	-	100	ns

(*) Pulsed : pulse duration = 300μs, duty cycle = 1%

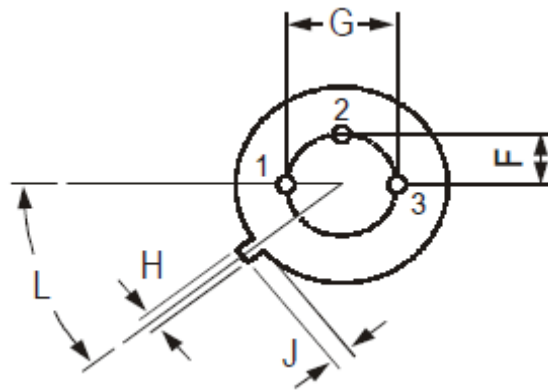
PNP 2N4030 – 2N4031 – 2N4032 – 2N4033

MECHANICAL DATA CASE TO-39

DIMENSIONS (mm)		
	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°	48°



Pin 1 :	Emitter
Pin 2 :	Base
Pin 3 :	Collector
Case :	Collector



Revised September 2012

Information furnished is believed to be accurate and reliable. However, Comset Semiconductors assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. Data are subject to change without notice. Comset Semiconductors makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Comset Semiconductors assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Comset Semiconductors' products are not authorized for use as critical components in life support devices or systems.