

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

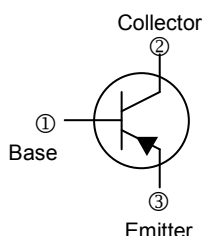
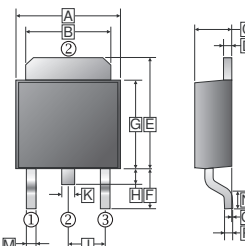
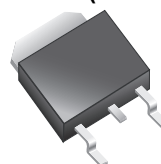
## DESCRIPTION

- Designed for General Purpose Amplifier and Low Speed Switching Applications
- Lead Formed for Surface Mount Applications in Plastic Sleeves (No Suffix)
- Straight Lead Version in Plastic Sleeves ("-1" Suffix)
- Lead Formed Version in 16 mm Tape and Reel ("T4" Suffix)
- Electrically Similar to Popular TIP31 and TIP32 Series

## PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13 inch

### TO-252 (D-Pack)



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.35	6.9	J	2.3	REF.
B	4.95	5.53	K	0.89	REF.
C	2.1	2.5	M	0.45	1.14
D	0.41	0.9	N	1.55	Typ.
E	6	7.5	O	0	0.13
F	2.90	REF.	P	0.58	REF.
G	5.4	6.4			
H	0.6	1.2			

## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V <sub>CB0</sub>	-100	V
Collector to Emitter Voltage	V <sub>CEO</sub>	-100	V
Emitter to Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-3	A
Collector Power Dissipation	P <sub>C</sub>	1.25	W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>STG</sub>	150, -65 ~ 150	°C

## CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Min.	Max.	Unit	Test Condition
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	-100	-	V	I <sub>C</sub> = -1mA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage <sup>1</sup>	V <sub>CEO(sus)</sub>	-100	-	V	I <sub>C</sub> = -30mA, I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	-5	-	V	I <sub>E</sub> = -1mA, I <sub>C</sub> =0
Collector Cut-Off Current	I <sub>CES</sub>	-	-20	uA	V <sub>CE</sub> = -100V, V <sub>EB</sub> =0
Collector Cut-Off Current	I <sub>CEO</sub>	-	-50	uA	V <sub>CE</sub> = -60V, I <sub>B</sub> =0
Emitter Cut-Off Current	I <sub>EBO</sub>	-	-1	mA	V <sub>EB</sub> = -5V, I <sub>C</sub> =0
DC Current Gain	h <sub>FE(1)</sub>	25	-		V <sub>CE</sub> = -4V, I <sub>C</sub> = -1A
	h <sub>FE(2)</sub>	15	75		V <sub>CE</sub> = -4V, I <sub>C</sub> = -3A
Collector-Emitter Saturation Voltage	V <sub>CE(Sat)</sub>	-	-1.2		I <sub>C</sub> = -3A, I <sub>B</sub> = -0.375A
Base-Emitter Voltage	V <sub>BE(Sat)</sub>	-	-1.8		V <sub>CE</sub> = -4V, I <sub>C</sub> = -3A
Transition Frequency	f <sub>T</sub>	3	-	MHZ	V <sub>CE</sub> = -10V, I <sub>C</sub> = -0.5A, f <sub>T</sub> =1KHZ

Notes:

1. Pulse Test: Pulse width ≤ 300μs, duty cycle ≤ 2%

**CHARACTERISTIC CURVES**

