

## TO-251-3L Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

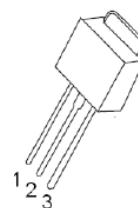
### FEATURES

- 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 TIP41 and TIP42 Series
- Monolithic Construction With Built-in Base-Emitter Resistors
- AEC-Q101 qualified (Automotive grade with suffix "Q".)

### Package

#### TO-251-3L (IPAK)

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



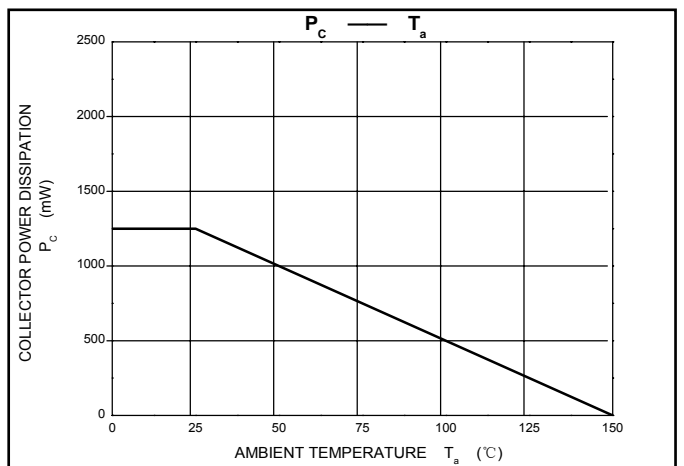
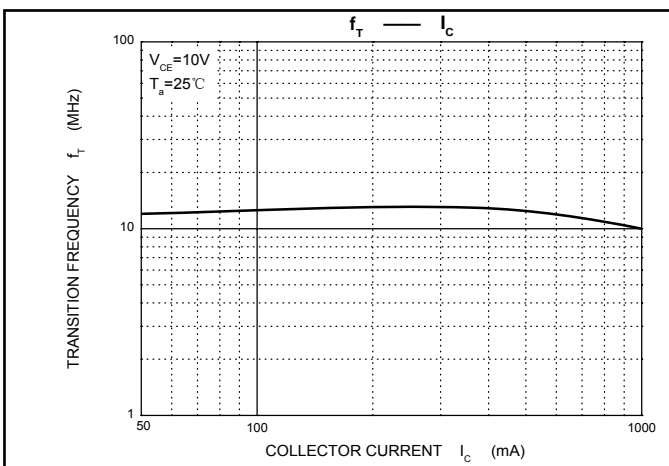
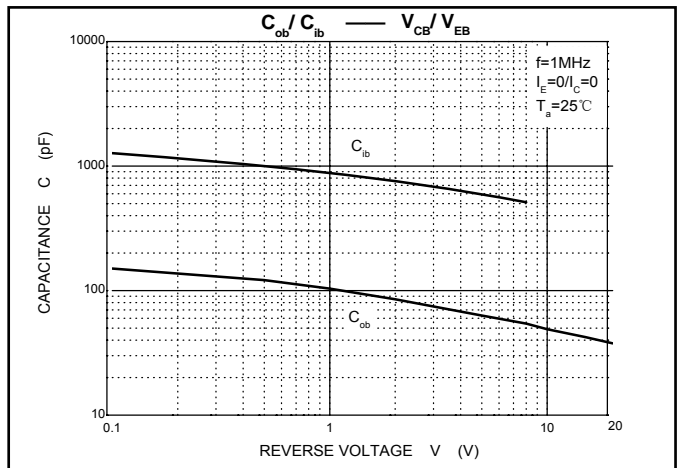
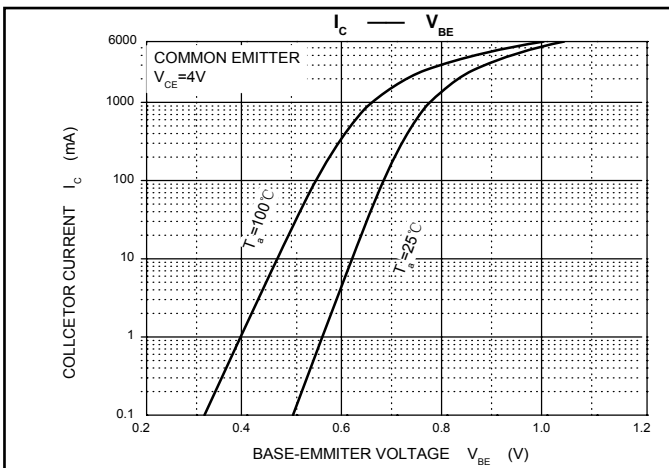
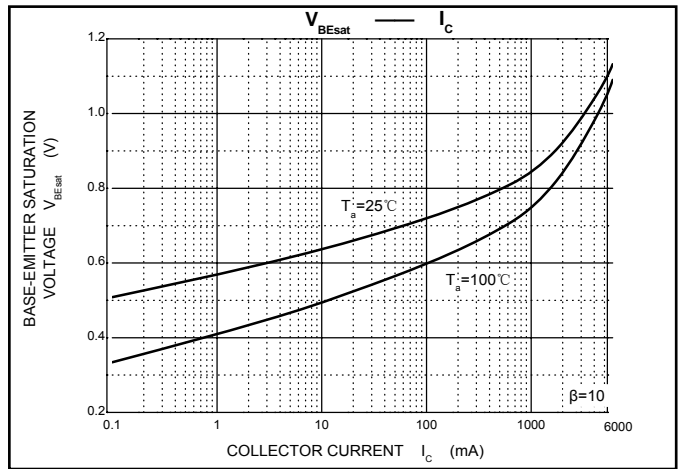
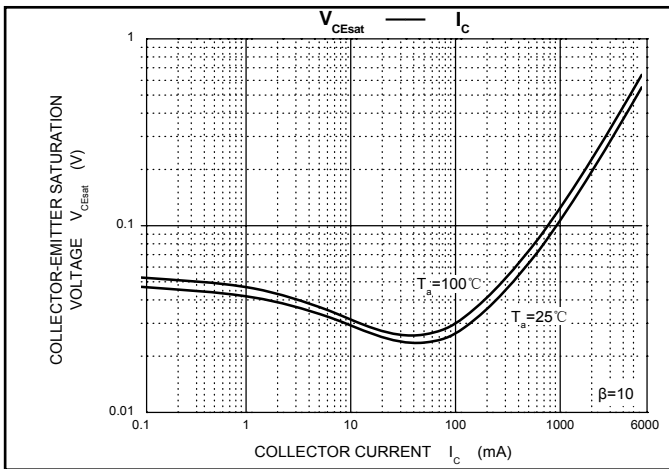
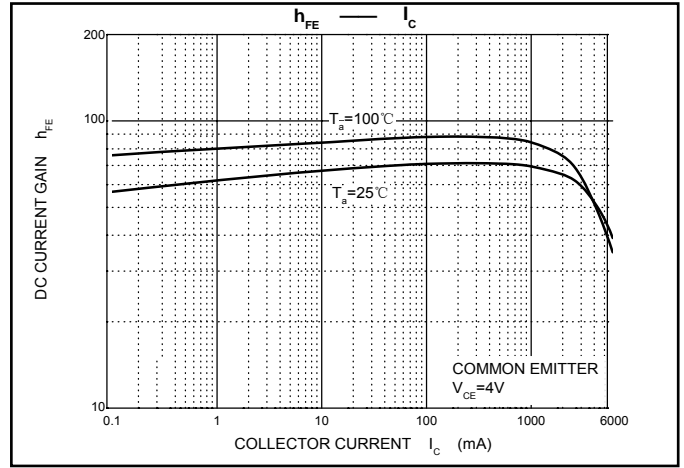
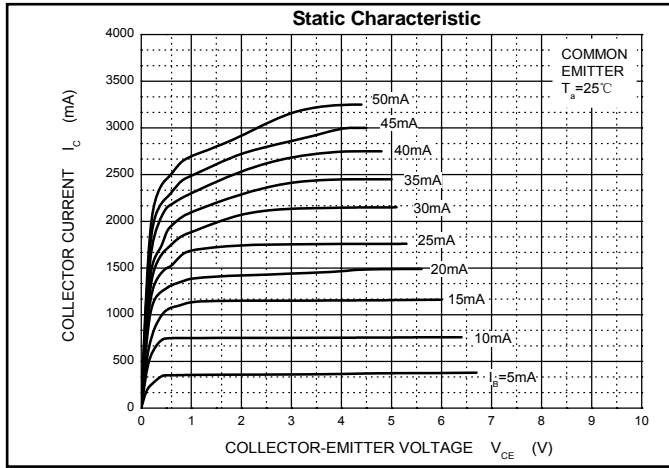
### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	100	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	6	A
P <sub>C</sub>	Collector Power Dissipation	1.25	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-65-150	°C

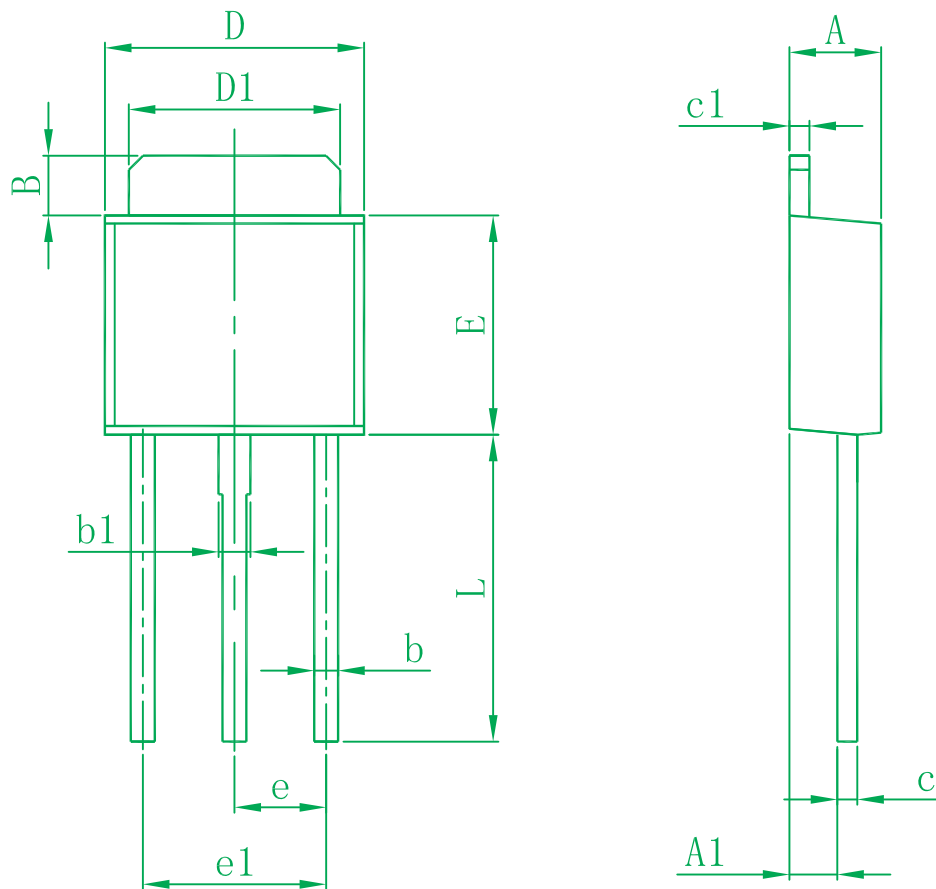
### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100μA, I <sub>E</sub> =0	100			V
Collector-emitter breakdown voltage	V <sub>CEO(sus)</sub>	I <sub>C</sub> =30mA, I <sub>B</sub> =0	100			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100μA, I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CEO</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0			50	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			0.5	mA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =4V, I <sub>C</sub> =0.3A	30			
	h <sub>FE(2)</sub>	V <sub>CE</sub> =4V, I <sub>C</sub> =3A	15		75	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =6A, I <sub>B</sub> =0.6A			1.5	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =4V, I <sub>C</sub> =6A			2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =500mA, f=1MHz	3			MHz

# Typical Characteristics



## TO-251-3L (IPAK) Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.050	1.350	0.042	0.054
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	7.500	7.900	0.295	0.311