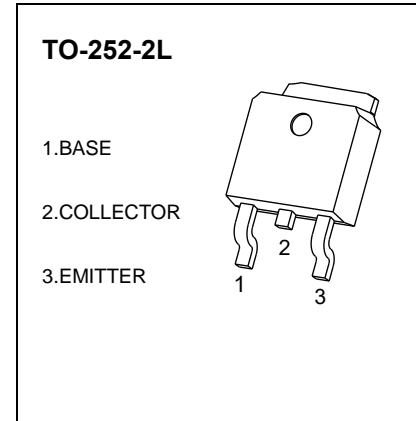


## TO-252-2L Plastic-Encapsulate Transistors TRANSISTOR (NPN)

### 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)
- Monolithic Construction With Built-in Base-Emitter Resistors
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Expsemi electronics



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

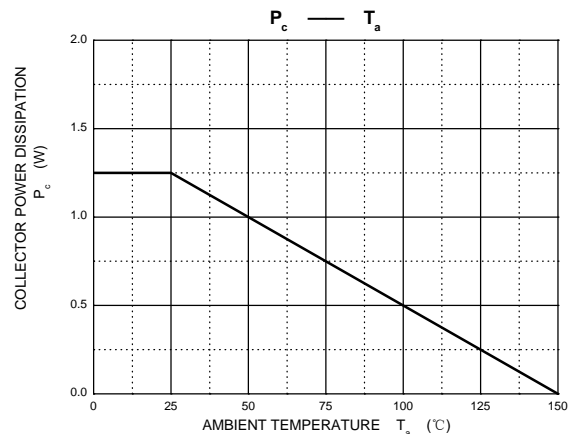
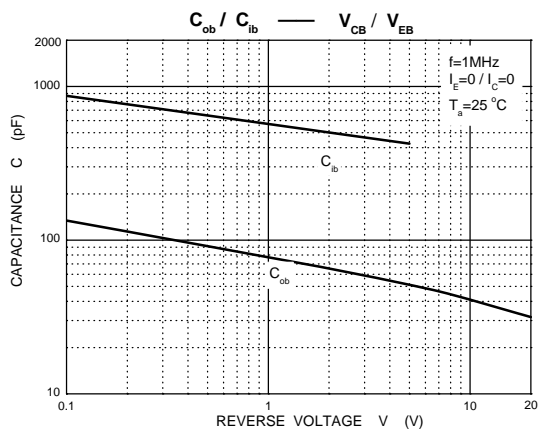
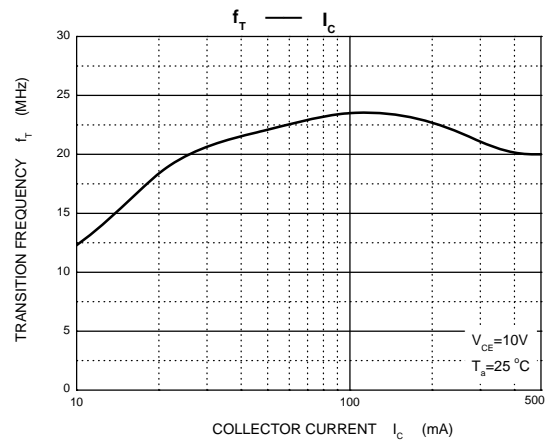
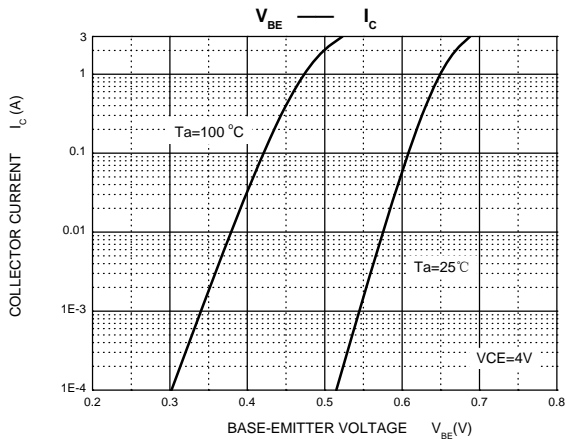
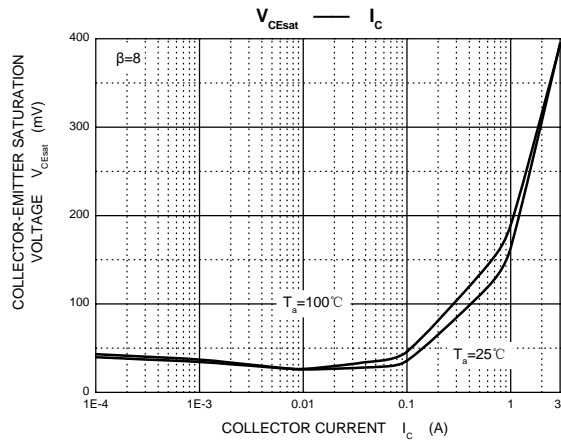
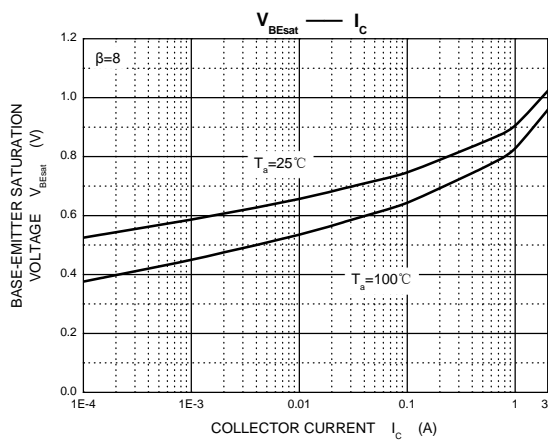
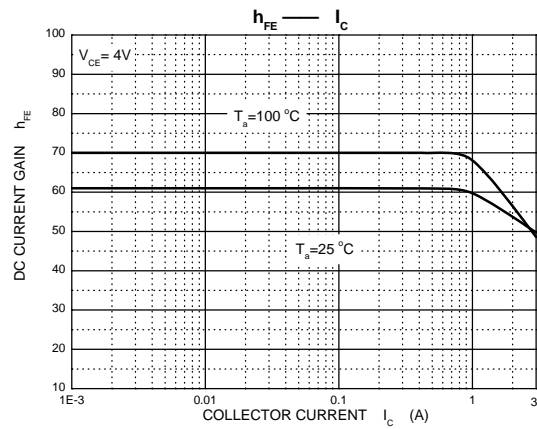
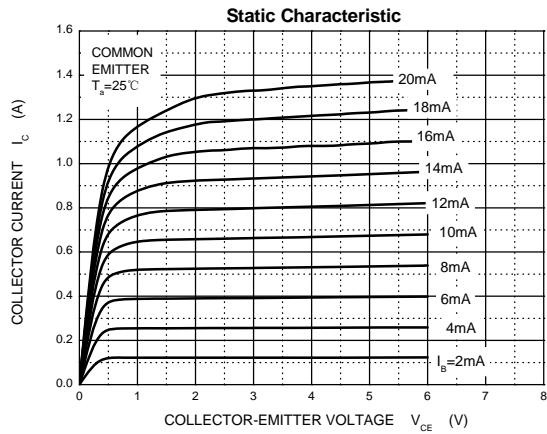
Symbol	Parameter	Max	Unit
V <sub>CBO</sub>	Collector-Base Voltage	100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	100	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	3	A
I <sub>CM</sub>	Collector Current -Pulsed	5	A
P <sub>C</sub>	Collector Power Dissipation	2	W
P <sub>tot</sub>	Total Power Dissipation (T <sub>C</sub> =25°C)	15	W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55-150	°C

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

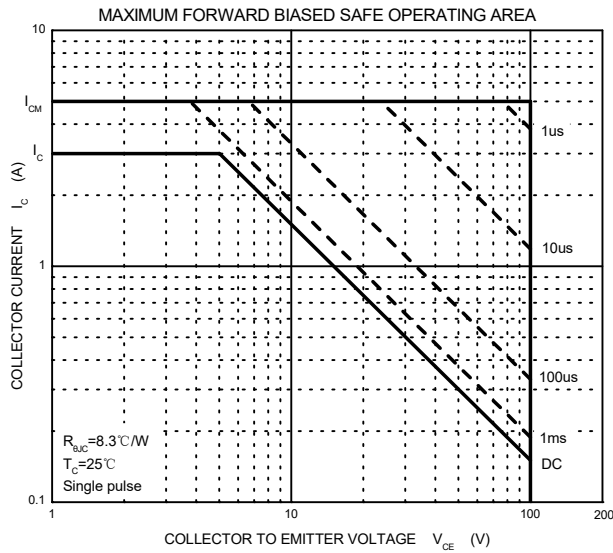
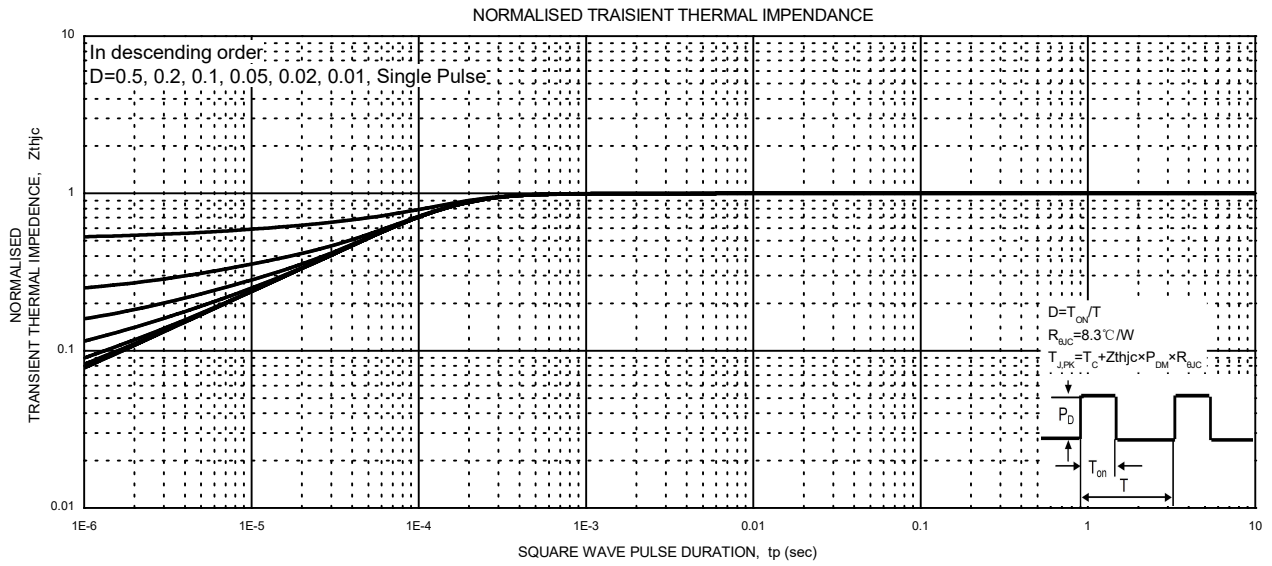
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 1mA, I <sub>E</sub> =0	100		V
Collector-emitter breakdown voltage *	V <sub>CEO(sus)</sub>	I <sub>C</sub> = 30mA, I <sub>B</sub> =0	100		V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 1mA, I <sub>C</sub> =0	5		V
Collector cut-off current	I <sub>CES</sub>	V <sub>CE</sub> =100V, V <sub>EB</sub> =0		20	μA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> = 60V, I <sub>B</sub> = 0		50	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0		1	mA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> = 4V, I <sub>C</sub> = 1A	25		
	h <sub>FE(2)</sub>	V <sub>CE</sub> =4 V, I <sub>C</sub> = 3A	10	100	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =3A, I <sub>B</sub> =0.375A		1.2	V
Base-emitter voltage	V <sub>BE(on)</sub>	V <sub>CE</sub> = 4V, I <sub>C</sub> =3A		1.8	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V , I <sub>C</sub> =0.5A, f <sub>T</sub> =1KHz	3		MHz

\* Pulse Test: PW≤300μs, Duty Cycle≤2%.

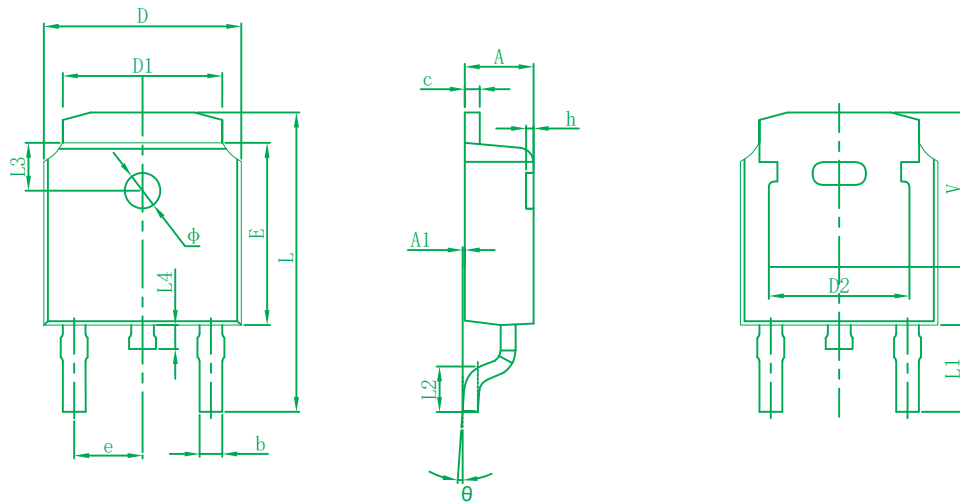
## Typical Characteristics



### Typical Characteristics

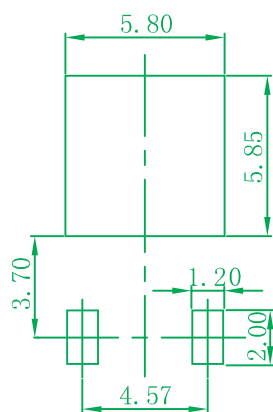


## TO-252-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

## TO-252-2L Suggested Pad Layout



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.