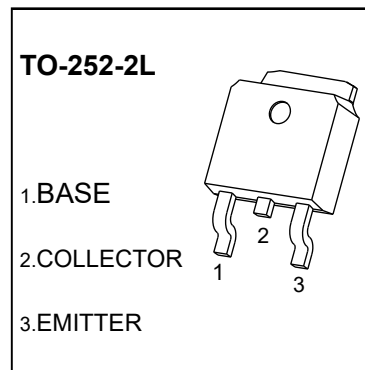


## TO-252-2L Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

### FEATURES

- Designed for General Purpose Amplifier and Low Speed Switching Applications.
- Lead Formed for Surface Mount Applications in Plastic Sleeves (No Suffix)
- Monolithic Construction With Built-in Base-Emitter Resistors
- AEC-Q101 qualified (Automotive grade with suffix "Q".)



### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

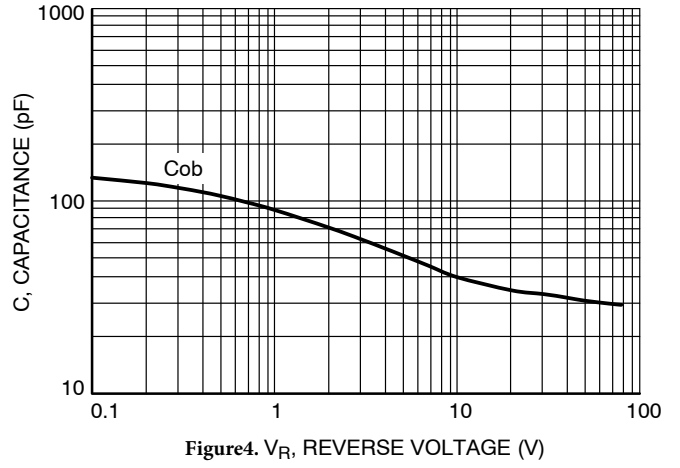
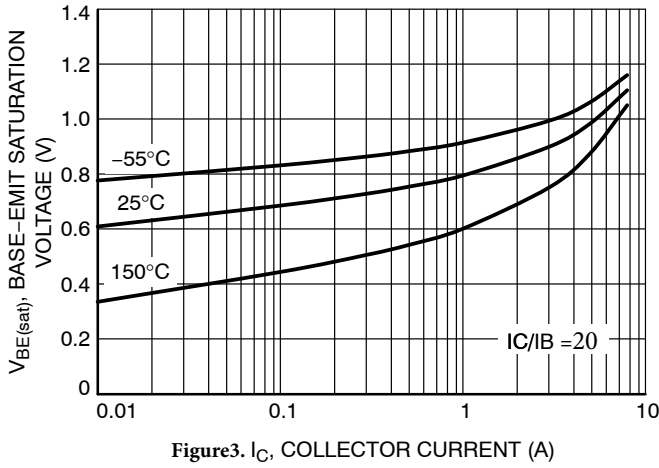
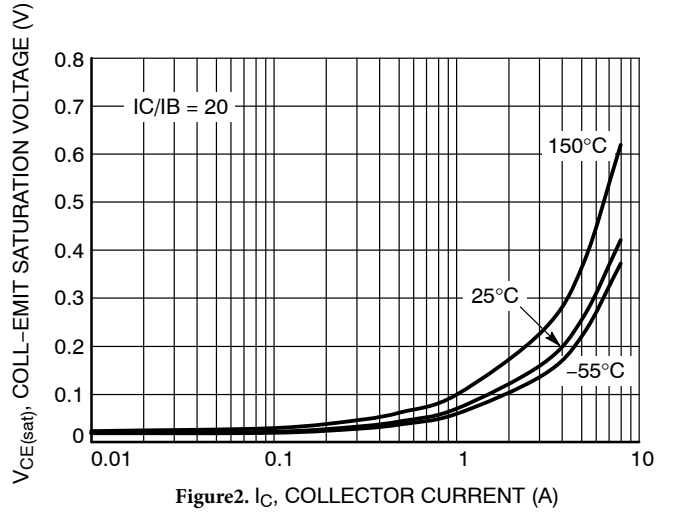
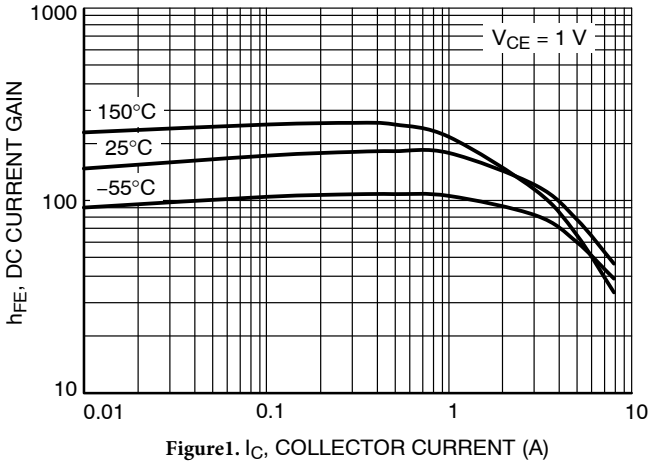
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current -Continuous	8	A
$I_{CP}^*$	Collector Current -Pulse	16	A
$P_C$	Collector Power Dissipation	2	W
$T_J, T_{stg}$	Operating Junction and Storage Temperature Range	-55-150	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

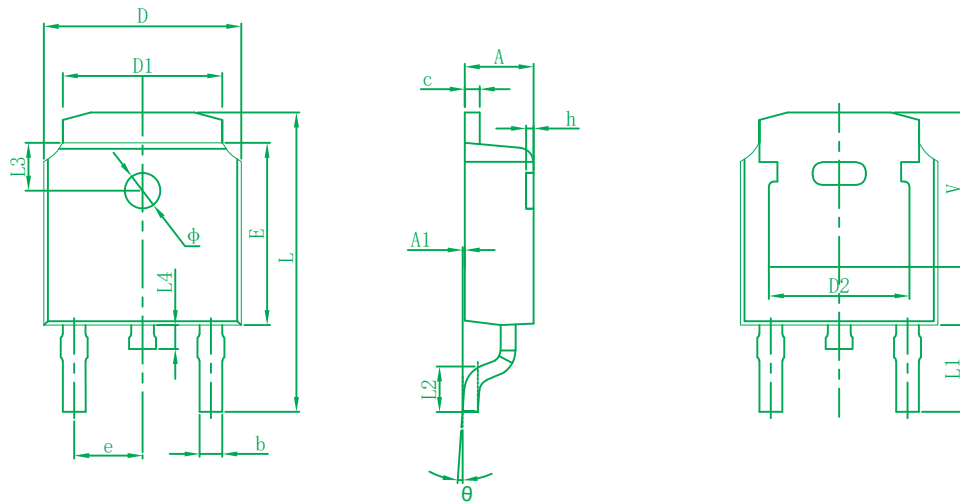
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	80			V
Collector-emitter breakdown voltage	$V_{CEO(sus)}$	$I_C=30\text{mA}, I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	6			V
Collector cut-off current	$I_{CEO}$	$V_{CB}=80\text{V}, I_E=0$			1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=6\text{V}, I_C=0$			1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=5\text{V}, I_C=1\text{A}$	80		600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=8\text{A}, I_B=0.4\text{A}$			0.8	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=8\text{A}, I_B=0.4\text{A}$			1.8	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1\text{MHz}$	10			MHz

\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

Typical Characteristics

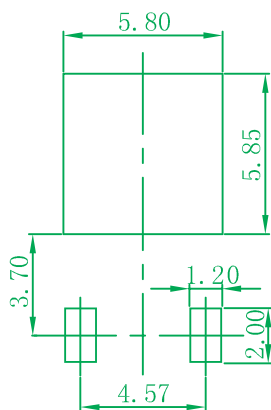


## TO-252-2L Package Outline Dimensions



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.