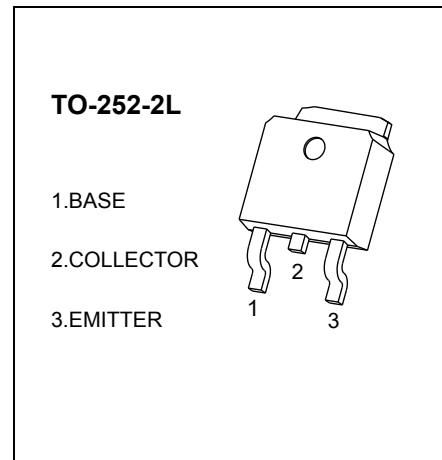


TO-252-2L Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

FEATURES

- Designed for General Purpose Amplifier and Low Speed Switching Applications
- DPAK for Surface-Mount Applications
- Low Collector Emitter Saturation Voltage
- High Current
- AEC-Q101 qualified (Automotive grade with suffix "Q".)



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
MJD45H11	TO-252-2L	tape	2500pcs/reel

MAXIMUM RATINGS (T_a=25°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	-6.0	V
I _C	Collector Current -Continuous	-8.0	A
R _{θJC}	Thermal resistance from junction to case ^①	3.0	°C/W
R _{θJA}	Thermal resistance from junction to ambient ^②	68	°C/W
P _C	Collector Power Dissipation ^③	1.8	W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~150	°C

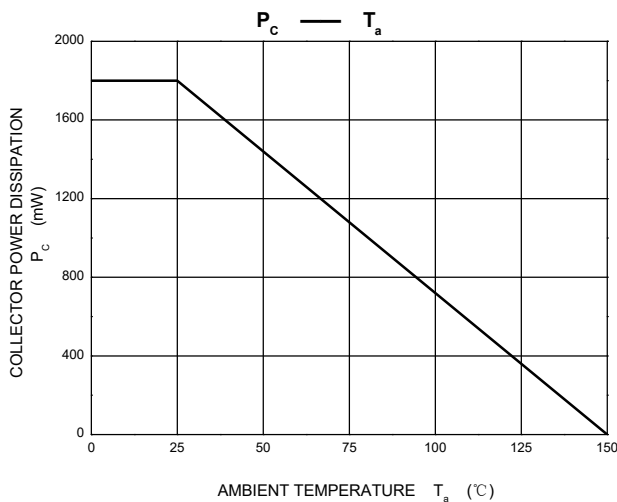
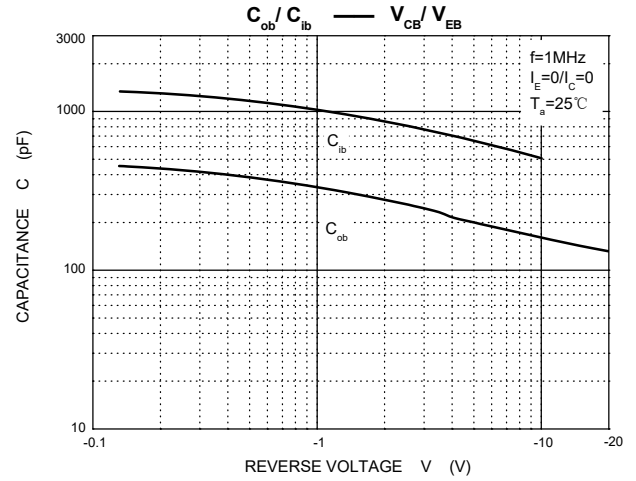
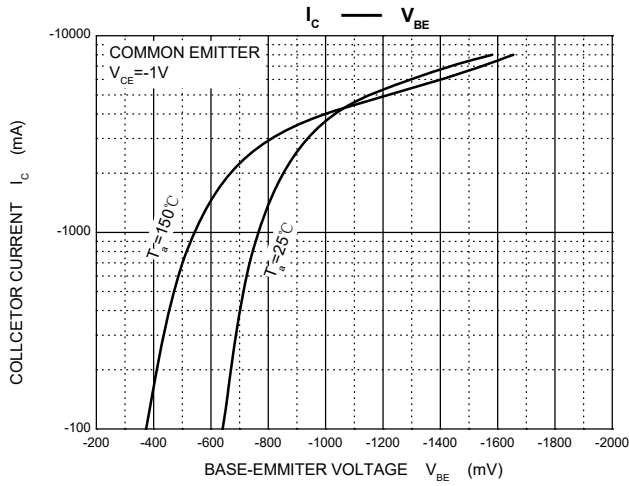
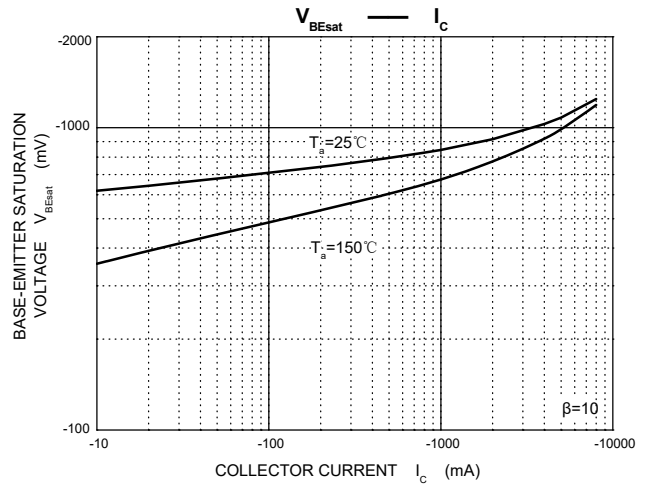
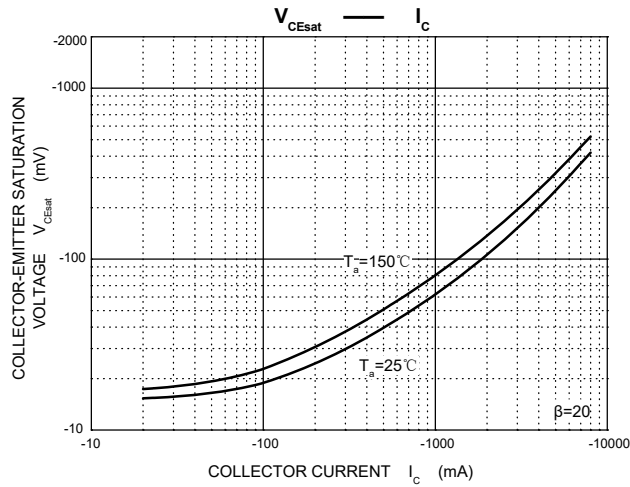
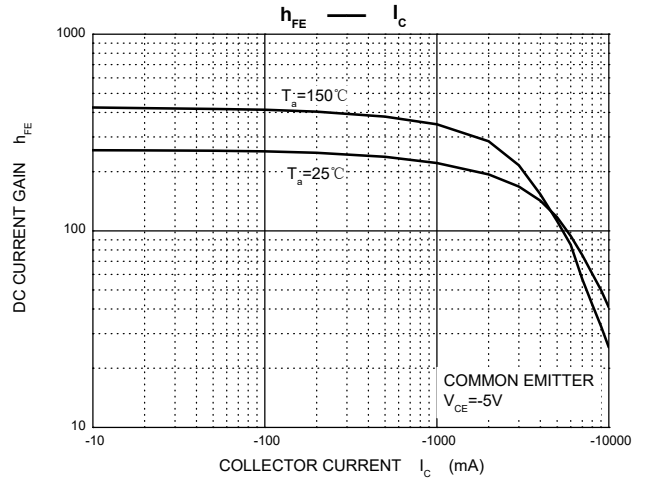
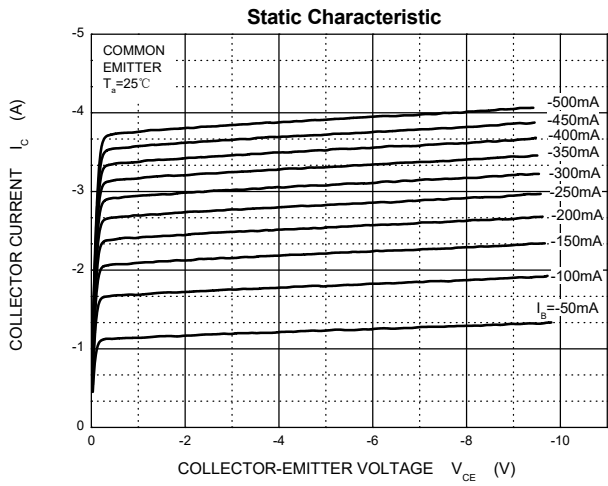
ELECTRICAL CHARACTERISTICS $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-1\text{mA}, I_E=0$	-80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$ ^④	$I_C=-30\text{mA}, I_B=0$	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-1\text{mA}, I_C=0$	-6.0			V
Collector cut-off current	I_{CBO}	$V_{CB}=-80, I_E=0$			-1.0	μA
Collector cut-off current	I_{CEO}	$V_{CE}=-60, I_B=0$			-1.0	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6\text{V}, I_C=0$			-1.0	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-1\text{V}, I_C=-2\text{A}$	-60			
	$h_{FE(2)}$	$V_{CE}=-1\text{V}, I_C=-4\text{A}$	-40			
	$h_{FE(3)}$	$V_{CE}=-5\text{V}, I_C=-1\text{A}$	-80		-600	
Collector-emitter saturation voltage	$V_{CE(sat)}$ ^④	$I_C=-8\text{A}, I_B=-0.4\text{A}$			-0.8	V
Base-emitter saturation voltage	$V_{BE(sat)}$ ^④	$I_C=-8\text{A}, I_B=-0.8\text{A}$			-1.5	V
Transition frequency	f_T	$V_{CE}=-10\text{V}, I_C=-100\text{mA}, f=1\text{MHz}$	10			MHz

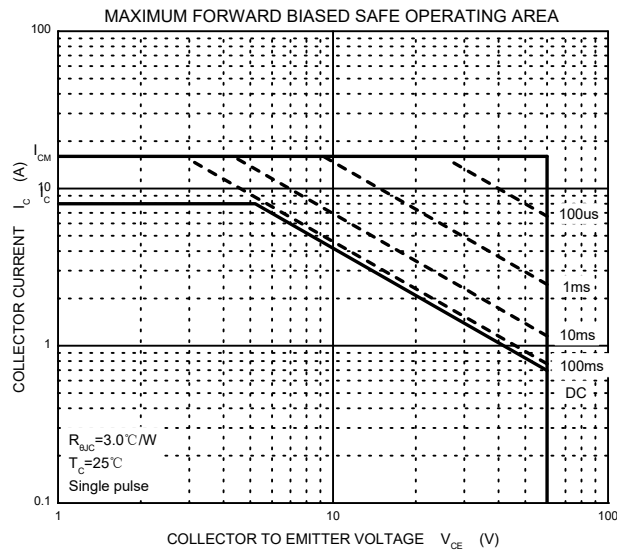
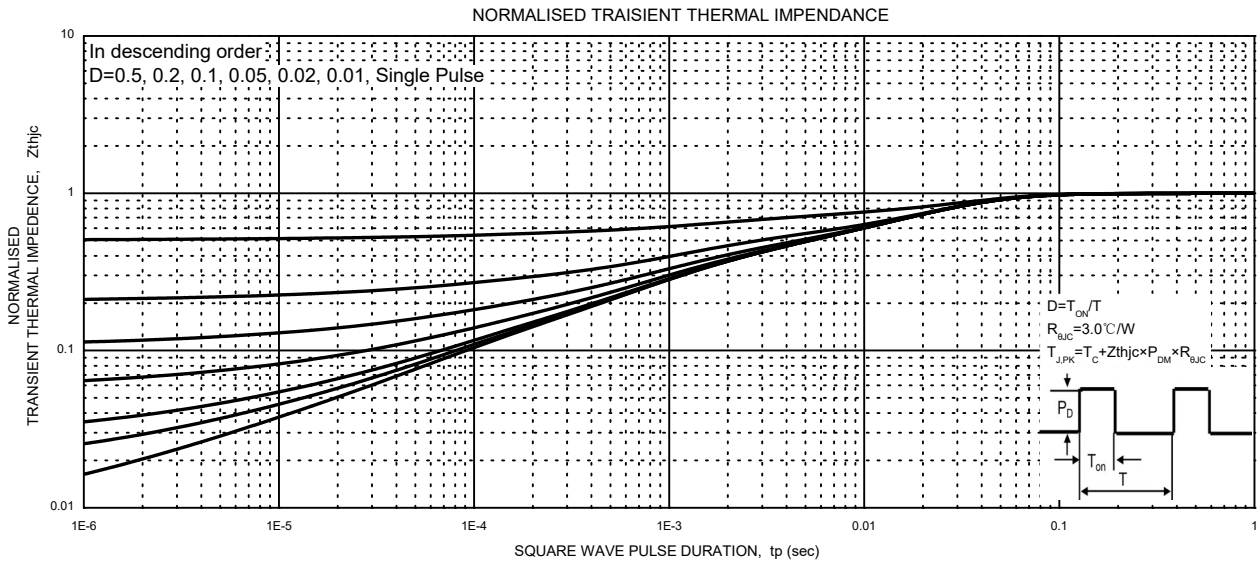
Notes:

1. Thermal resistance from junction to lead mounted on FR4 PCB double sided copper with mini pad, $T_C=25^\circ\text{C}$.
2. Thermal resistance from junction to ambient mounted on FR4 PCB double sided copper with mini pad, $T_A=25^\circ\text{C}$.
3. $T_C=25^\circ\text{C}$ Limited only by maximum temperature allowed.
4. Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$.

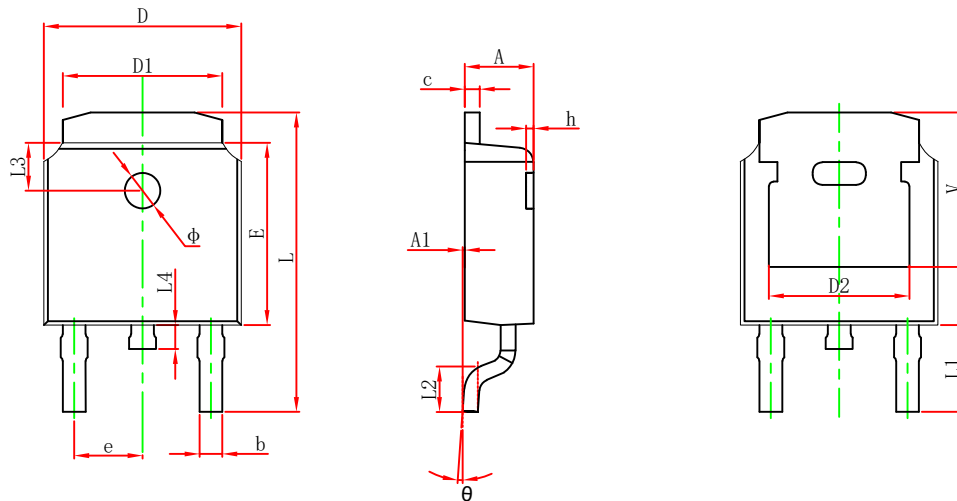
Typical Characteristics



Typical Characteristics

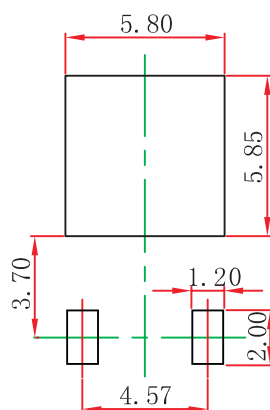


TO-252-2L Package Outline Dimensions



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: ± 0.05 mm.
3. The pad layout is for reference purposes only.