

# SOT-23 Plastic-Encapsulate Transistors

## TRANSISTOR (PNP)

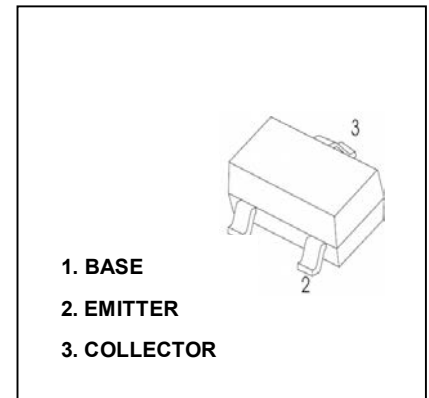
### FEATURES

- General Purpose Amplifier Applications
- AEC-Q101 qualified (Automotive grade with suffix " Q".)

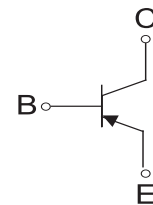
MARKING: 2GM

### 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	-80	V
$V_{EBO}$	Emitter-Base Voltage	-4	V
$I_C$	Collector Current	-500	mA
$P_C$	Collector Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	555	$^\circ\text{C/W}$
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^\circ\text{C}$



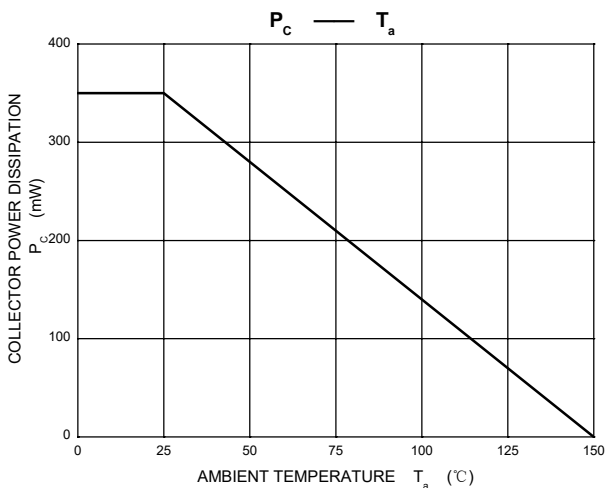
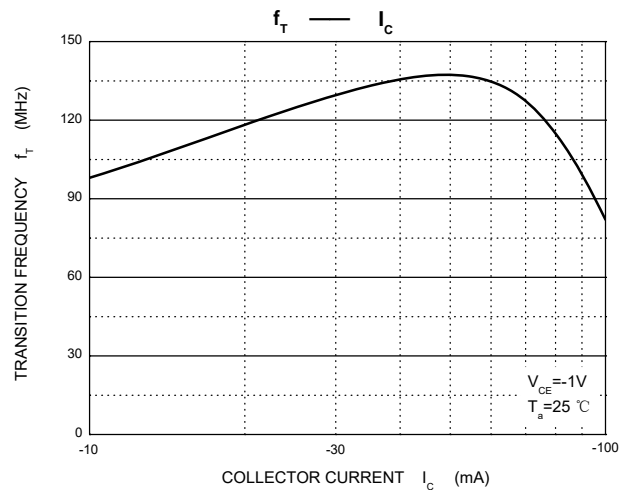
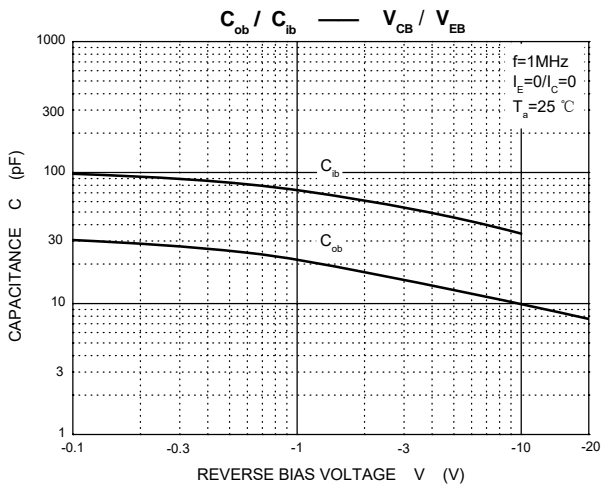
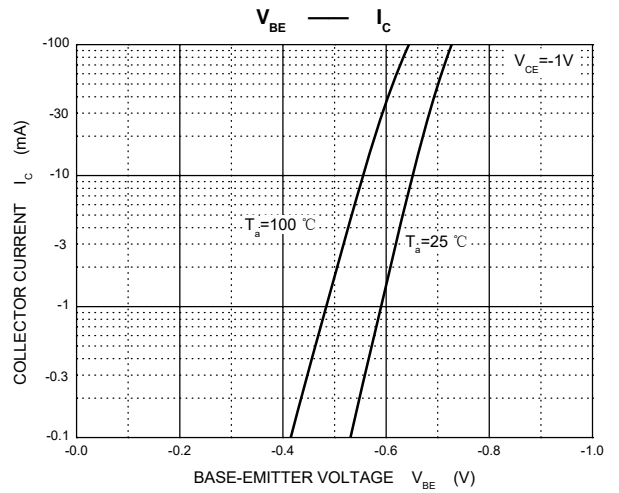
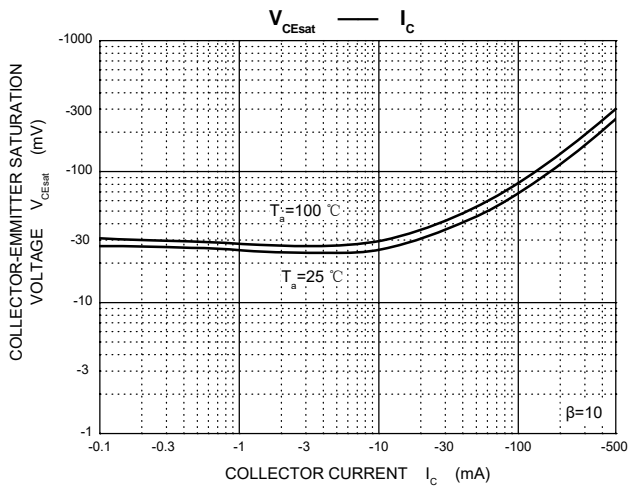
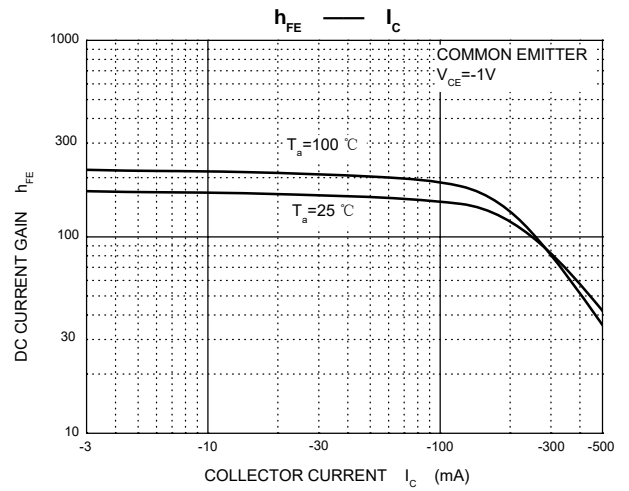
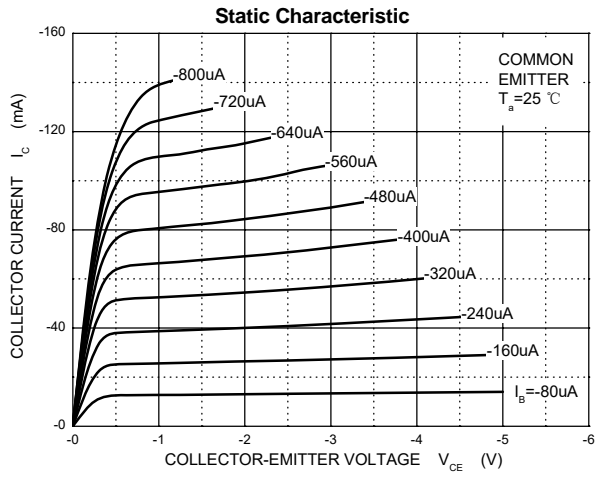
### Equivalent Circuit



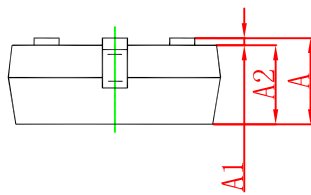
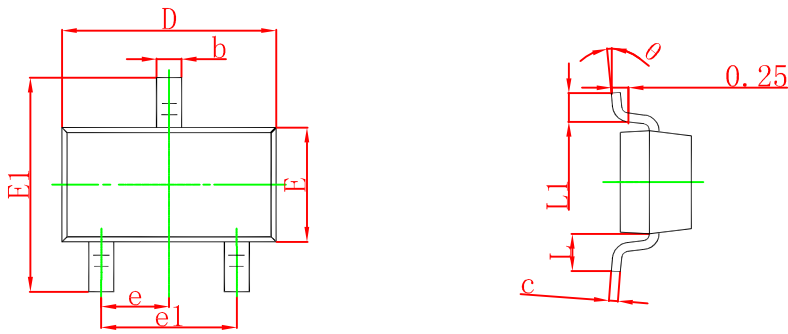
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless otherwise specified)

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	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-4			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-80\text{V}, I_E=0$			-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}=-60\text{V}, I_B=0$			-1	$\mu\text{A}$
Emitter-base breakdown voltage	$I_{EBO}$	$V_{EB}=-4\text{V}, I_C=0$			-0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=-1\text{V}, I_C=-10\text{mA}$	100		400	
	$h_{FE(2)}$	$V_{CE}=-1\text{V}, I_C=-100\text{mA}$	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100\text{mA}, I_B=-10\text{mA}$			-0.25	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=-1\text{V}, I_C=-100\text{mA}$			-1.2	V
Transition frequency	$f_T$	$V_{CE}=-1\text{V}, I_C=-100\text{mA}, f=100\text{MHz}$	50			MHz

Typical Characteristics

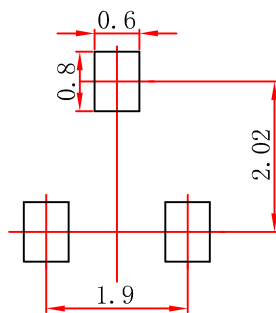


## SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

## SOT-23 Suggested Pad Layout



## Note:

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