

Features

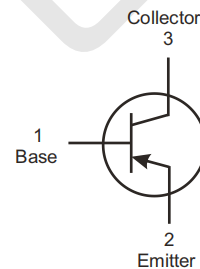
- Epoxy meets UL-94 V-0 flammability rating.
- Moisture sensitivity Level 1.

Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102.



Circuit Diagram



Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	-40	V
Collector-emitter voltage	V_{CEO}	-40	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-0.6	A
Collector power dissipation	P_C	300	mW
Operation junction temperature	T_J	150	°C
Storage temperature range	T_{STG}	-55 to +150	°C
Thermal resistance from junction to ambient	$R_{\theta JA}$	417	°C/W



Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V _{CB0}	I _c = -100μA, I _E = 0	-40			V
Collector-emitter breakdown voltage	V _{CEO}	I _c = -1mA, I _B = 0	-40			V
Emitter-base breakdown voltage	V _{EBO}	I _E = -100μA, I _c = 0	-5			V
Collector-base cut-off current	I _{CB0}	V _{CB} = -35V, I _E = 0			-0.1	μA
Collector-emitter cut-off current	I _{CEO}	V _{CE} = -35V, I _B = 0			-0.1	μA
Emitter-base cut-off current	I _{EBO}	V _{EB} = -4V, I _c = 0V			-0.1	μA
DC current gain	h _{FE}	V _{CE} = -2V, I _c = -150mA	100		300	
Collector-emitter saturation voltage	V _{CE(sat)}	I _c = -150mA, I _B = -15mA			-0.40	V
Base-emitter saturation voltage	V _{BE(sat)}	I _c = -150mA, I _B = -15mA			-0.95	V
Transition frequency	f _T	V _{CE} = -10V, I _c = -20mA, f = 100MHz	200			MHz
Delay time	t _d	V _{CC} = -3V, V _{BE} = -2V, I _c = -150mA, I _{B1} = -15mA			15	ns
Rise time	t _r				20	ns
Storage time	t _s	V _{CC} = -3V, I _c = -150mA, I _{B1} = I _{B2} = -15mA			225	ns
Fall time	t _f				30	ns

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

Fig.1 - Static Characteristic

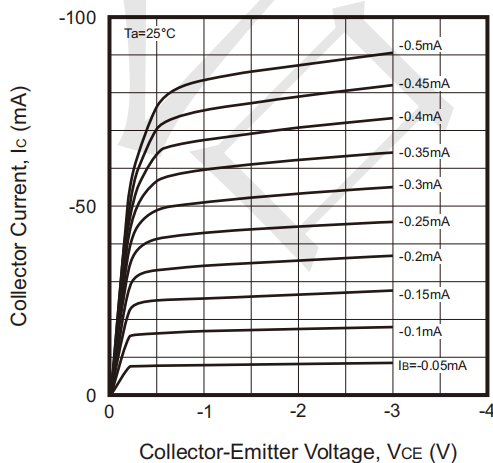
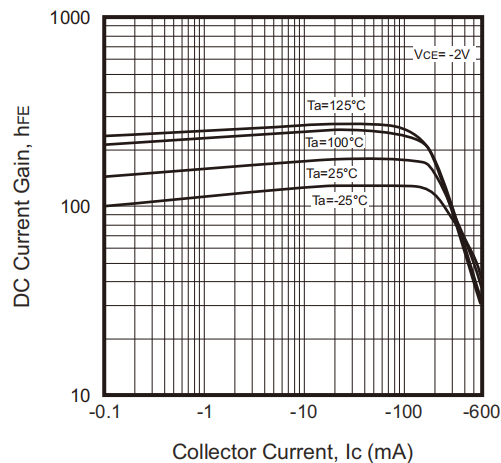


Fig.2 - DC Current Gain





Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig.3 - Collector-Emitter Saturation Voltage

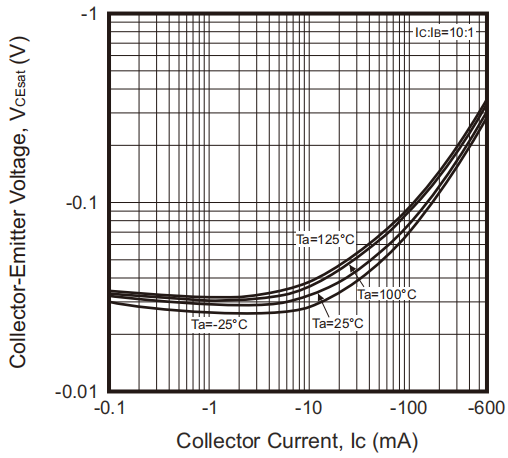


Fig.4 - Base-Emitter Saturation Voltage

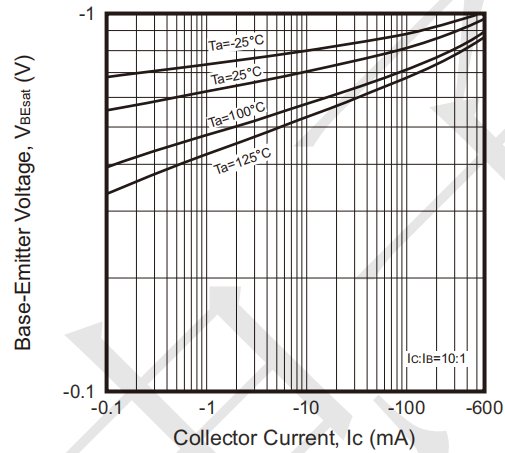


Fig.5 - Base-Emitter on Voltage

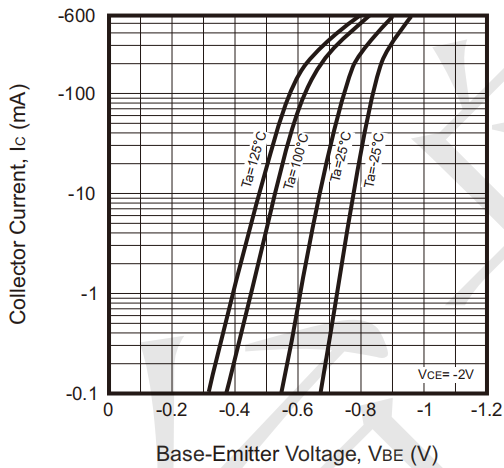


Fig.6 - $C_{ob}/C_{ib} - V_{CB}/V_{EB}$

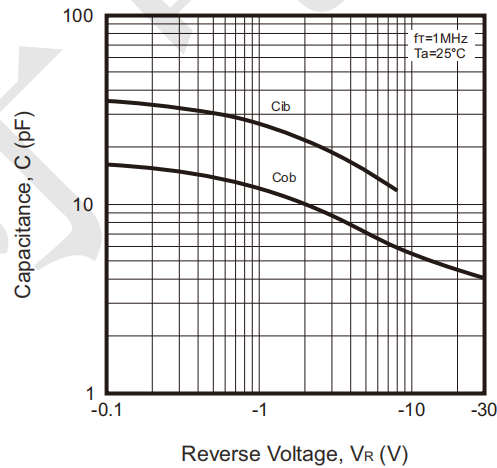
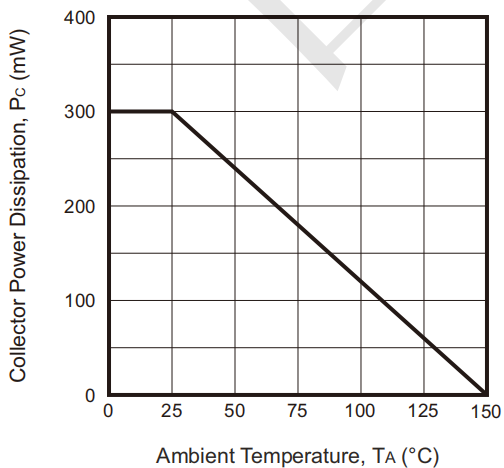
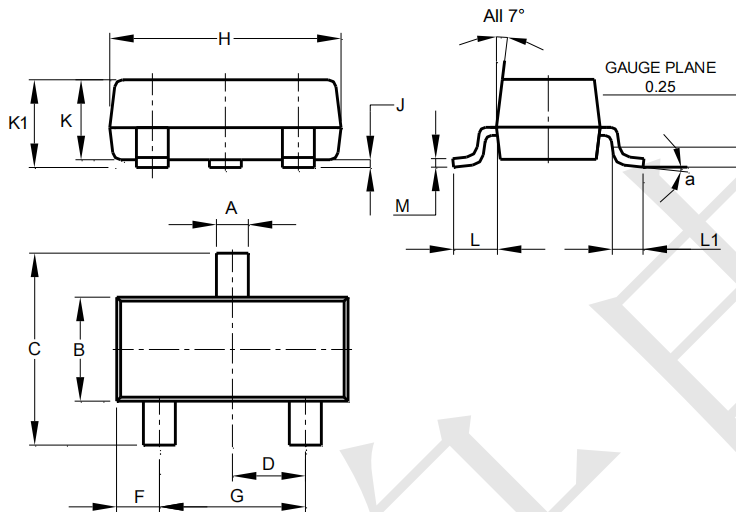


Fig.7 - Collector Power Derating Curve



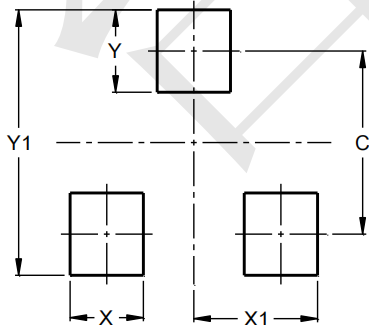


Outline Drawing - SOT23



SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

Land Pattern - SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9