



Features

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

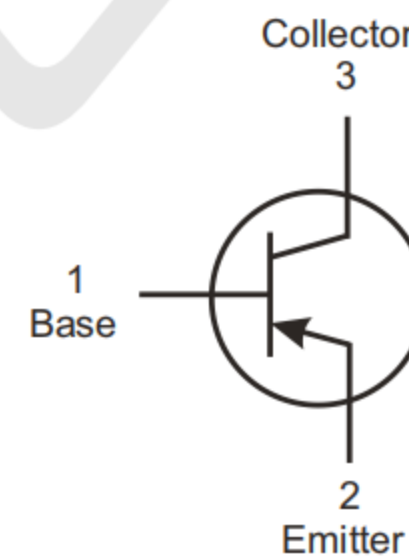
Mechanical data

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

Circuit Diagram



Marking: ZE Or 2L



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

Parameter	Conditions	Symbol	Value	Unit
Collector-base voltage	$I_C = -100\mu A, I_E = 0$	V_{CBO}	-180	V
Collector-emitter voltage	$I_C = -1mA, I_B = 0$	V_{CEO}	-160	V
Emitter-base voltage	$I_E = -10\mu A, I_C = 0$	V_{EBO}	-6	V
Collector current		I_C	-600	mA
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 voltage	V_{CBO}	$I_C = -100\mu A_{dc}, I_E = 0$	-180			V
Collector-emitter voltage	V_{CEO}	$I_C = -1mA_{dc}, I_B = 0$	-160			V
Emitter-base voltage	V_{EBO}	$I_E = -10\mu A_{dc}, I_C = 0$	-6			V
Collector-base cut-off current	I_{CBO}	$V_{CB} = -120V_{dc}$			-50	nA
Emitter-emitter cut-off current	I_{EBO}	$V_{EB} = -4V_{dc}$			-50	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = -5V_{dc}, I_C = -1mA$	80			
	$h_{FE(2)}$	$V_{CE} = -5V_{dc}, I_C = -10mA$	100		300	
	$h_{FE(3)}$	$V_{CE} = -5V_{dc}, I_C = -50mA$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10mA, I_B = -1mA$			-0.2	V
		$I_C = -50mA, I_B = -5mA$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -10mA, I_B = -1mA$			-1.0	V
		$I_C = -50mA, I_B = -5mA$			-1.0	V
Transition frequency	f_T	$V_{CE} = -5V_{dc}, I_C = -10mA_{dc}, f = 30MHz$	100		300	MHz

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

Fig.1 - Static Characteristic

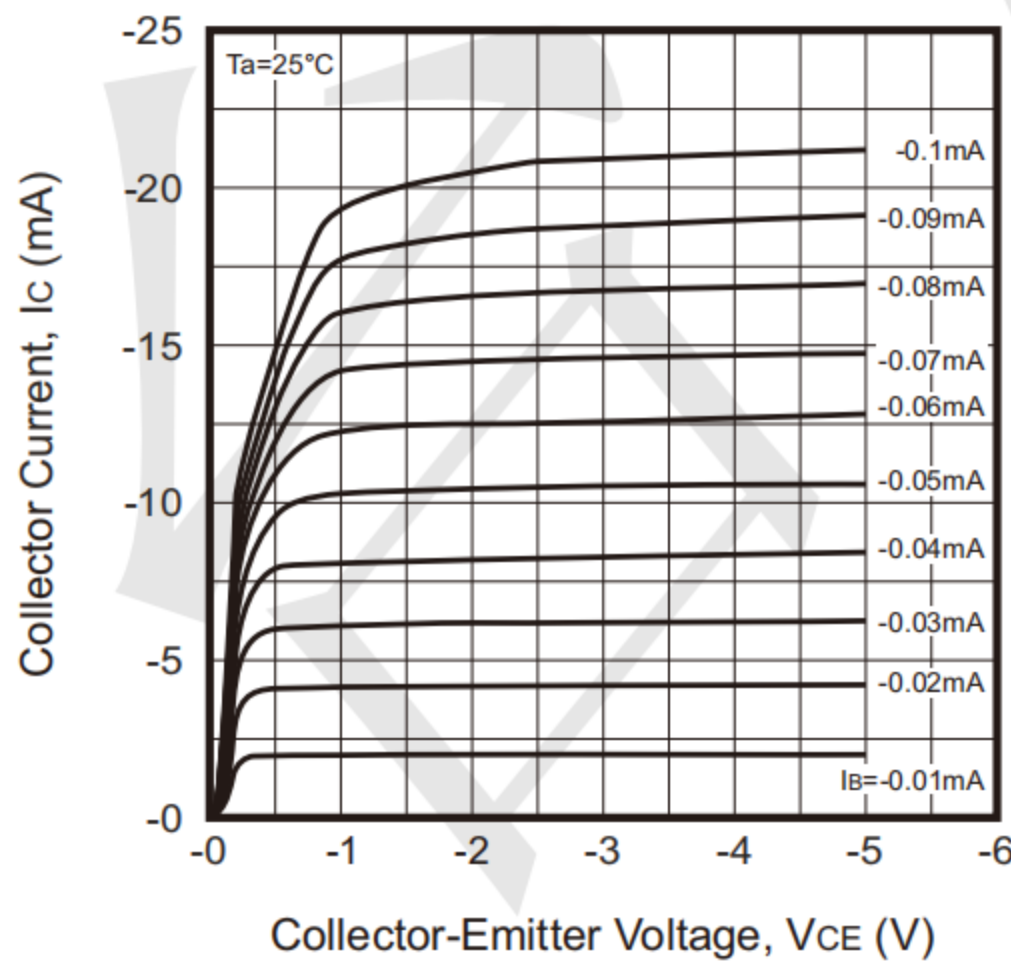
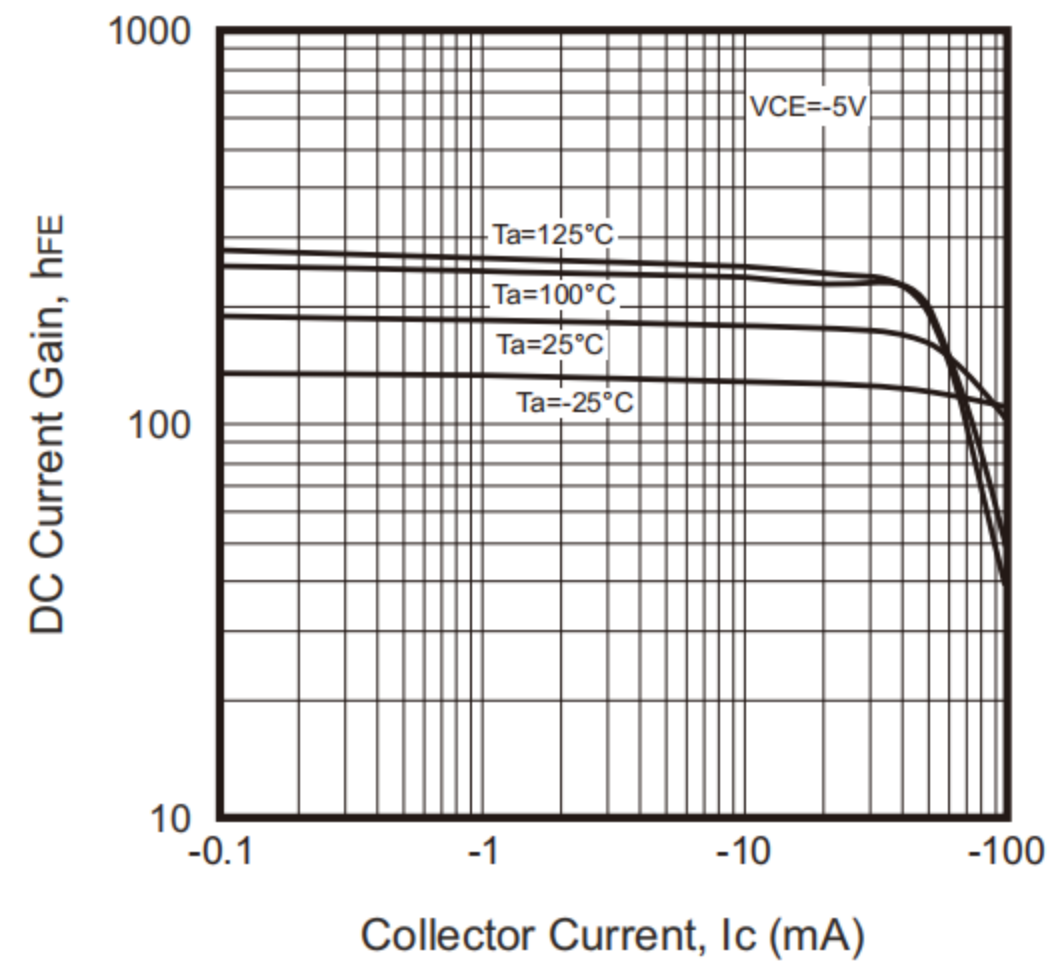


Fig.2 - DC Current Gain





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

www.sot23.com.tw

Fig.3 - Collector-Emitter Saturation Voltage

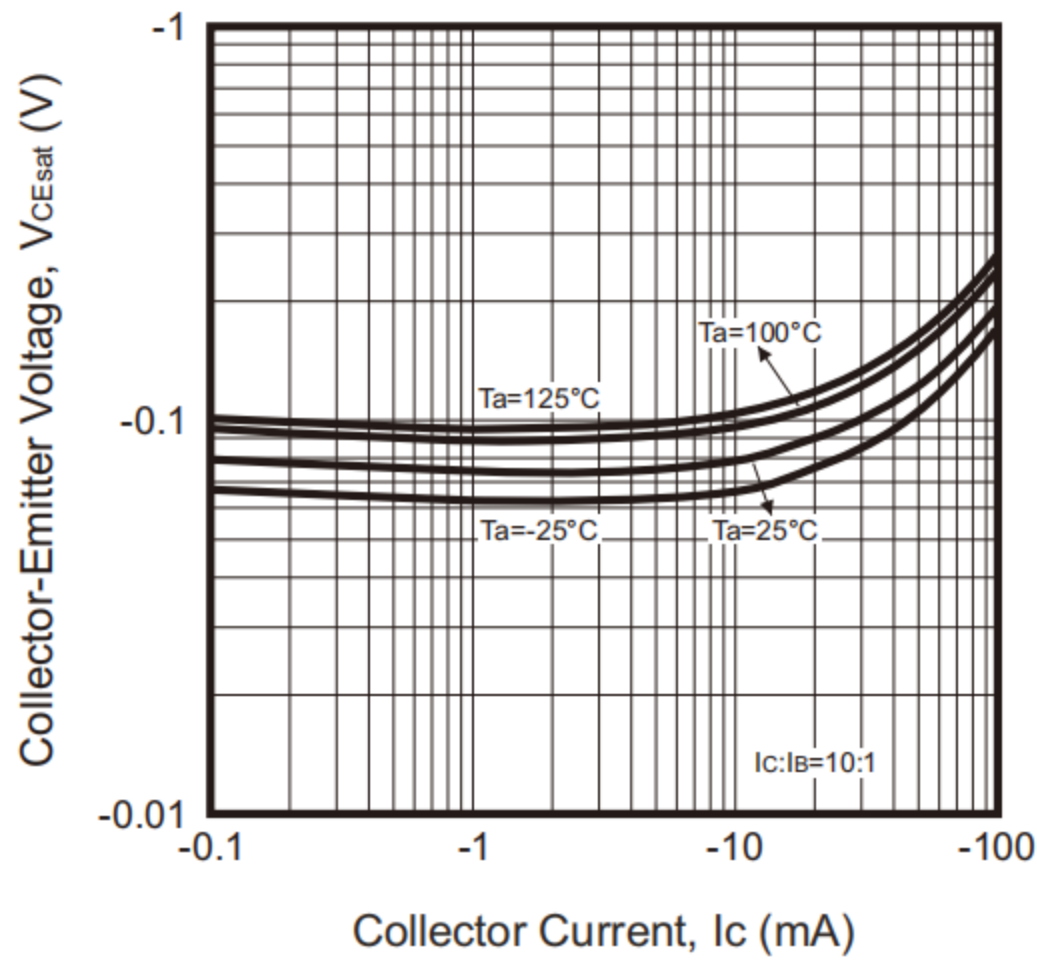


Fig.4 - Base-Emitter Saturation Voltage

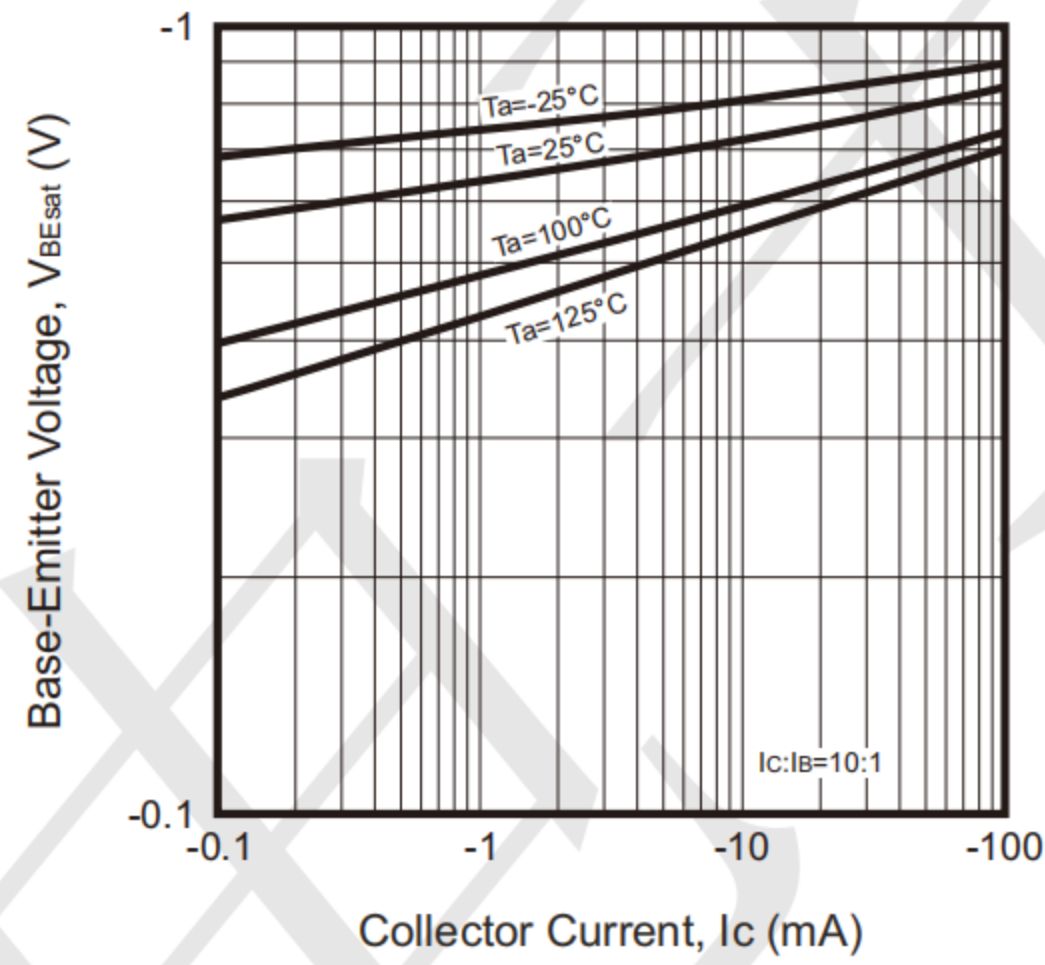


Fig.5 - Base-Emitter on Voltage

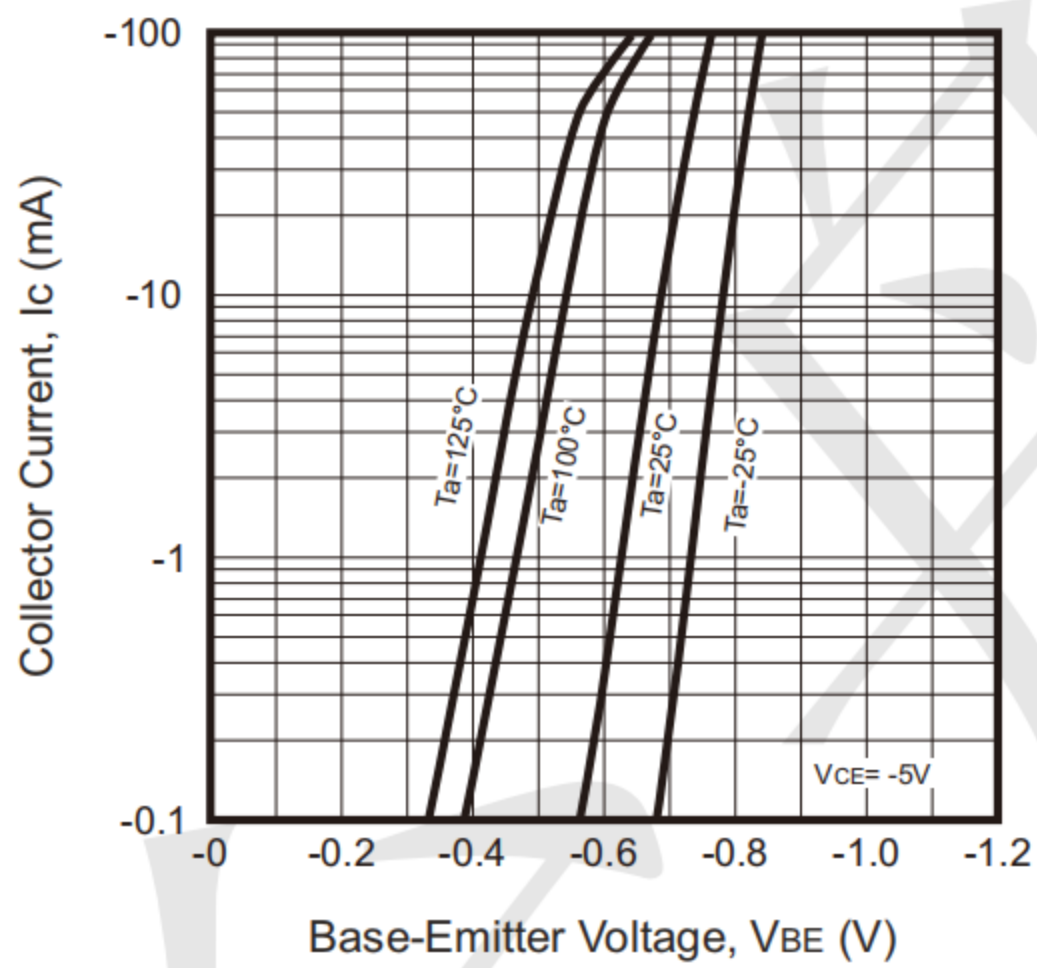


Fig.6 - $C_{ob}/C_{ib} - V_{CB}/V_{EB}$

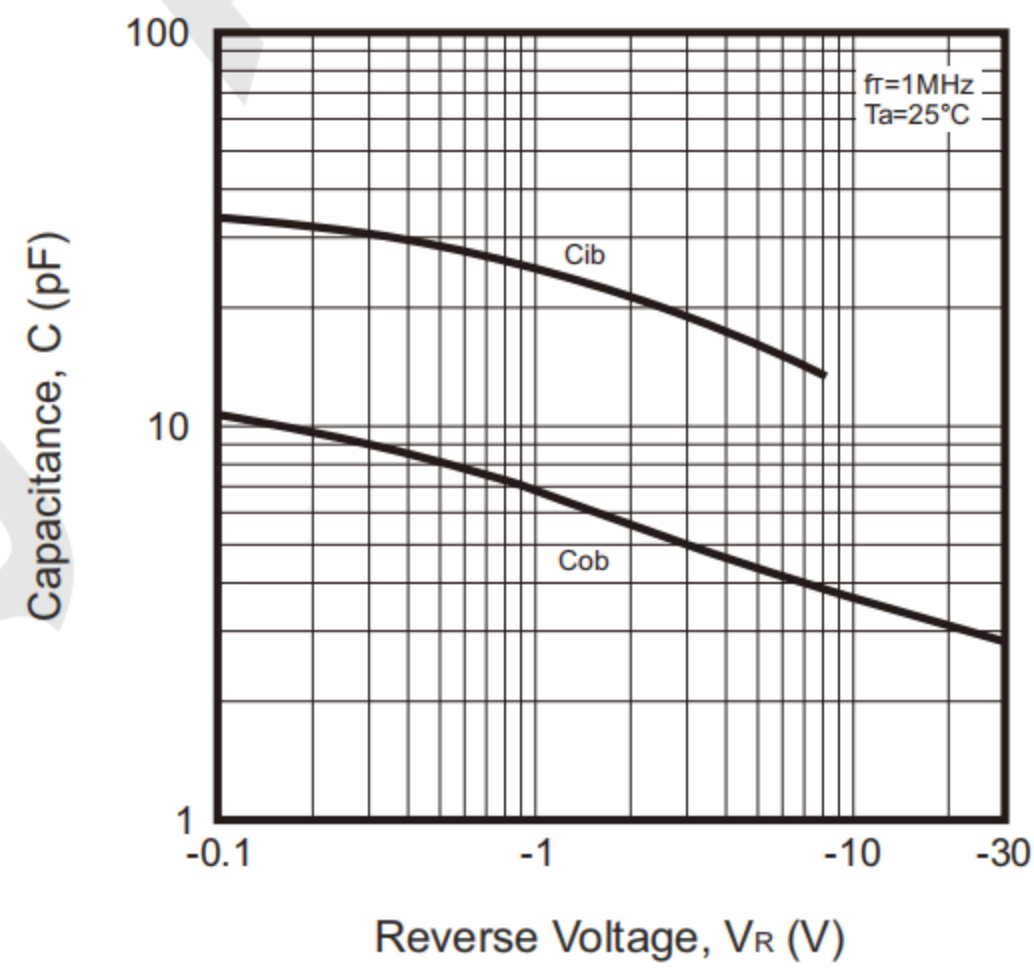
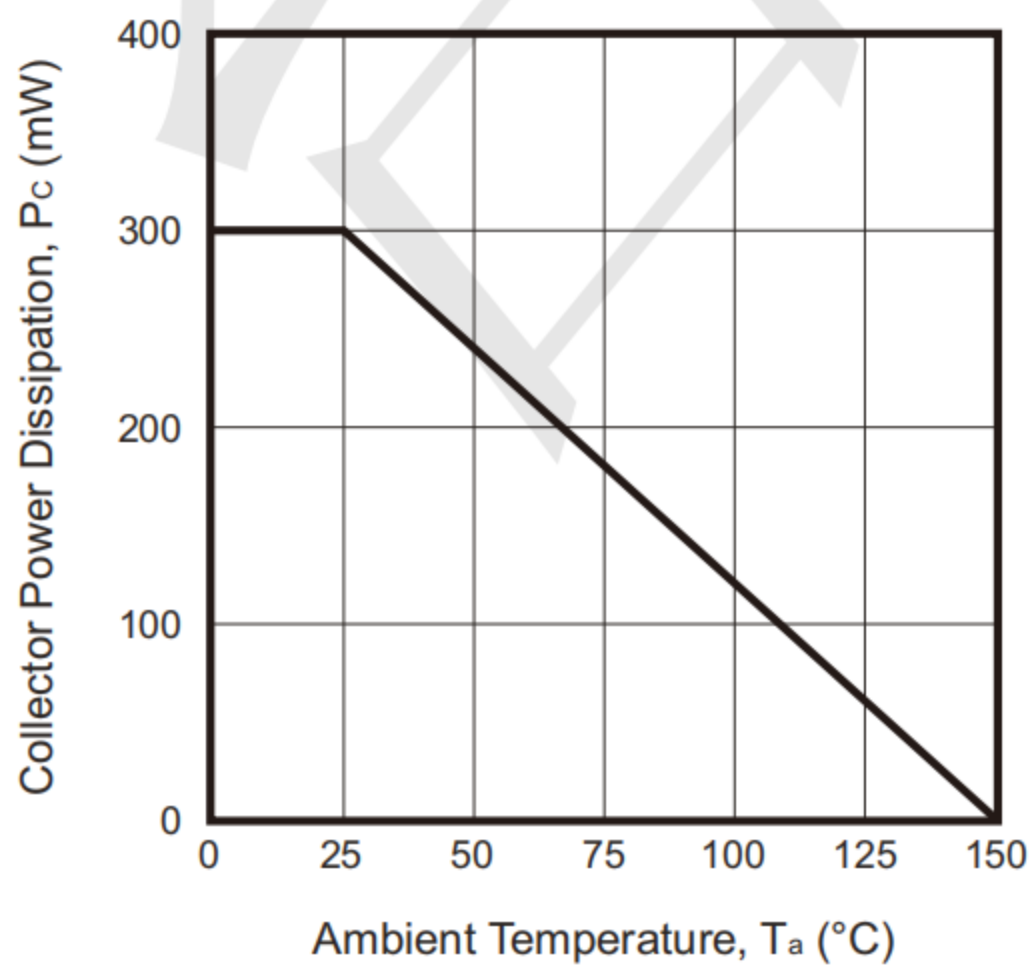
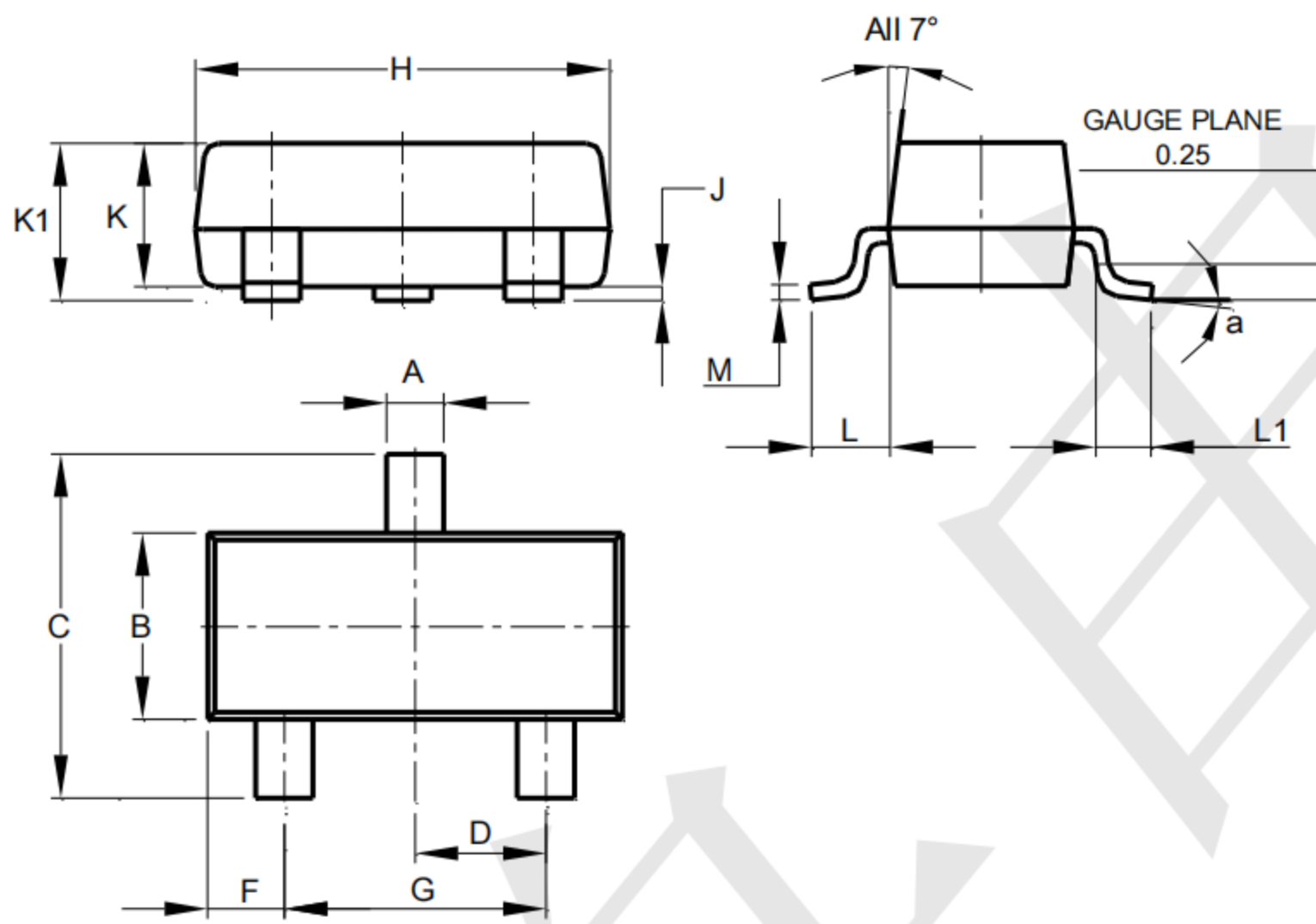


Fig.7 - Collector Power Derating Curve



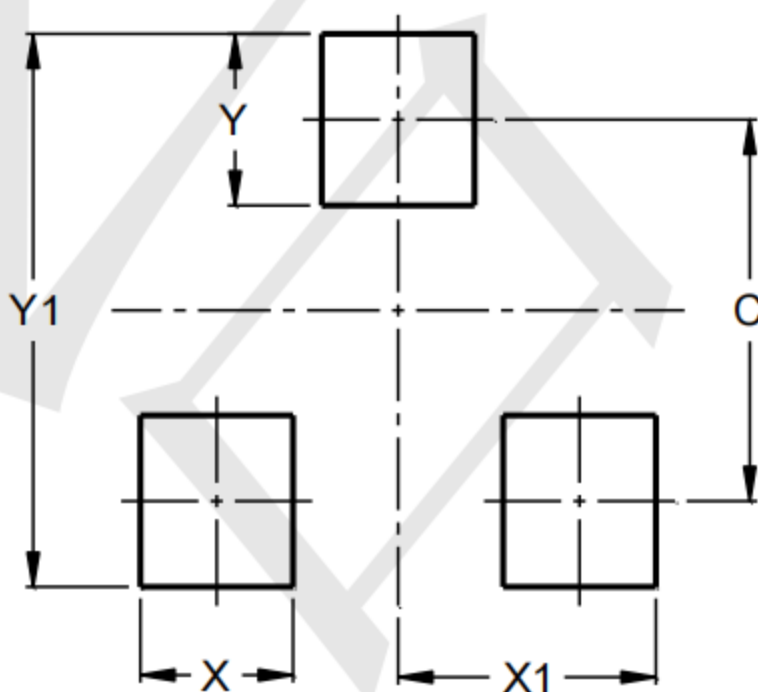


Outline Drawing - SOT23



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