

Features

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

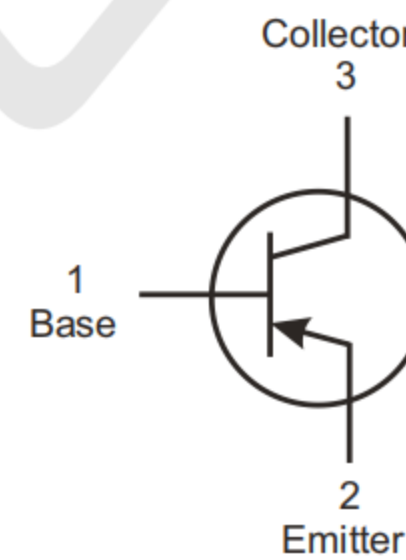
Mechanical data

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



Marking: ZE Or 2L

Circuit Diagram



Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Conditions	Symbol	Value	Unit
Collector-base voltage	I _C = -100μAdc, I _E = 0	V _{CBO}	-180	V
Collector-emitter voltage	I _C = -1mAdc, I _B = 0	V _{CEO}	-160	V
Emitter-base voltage	I _E = -10μAdc, 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 _{θJA}	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 = -100μAdc, I _E = 0	-180			V
Collector-emitter voltage	V _{CEO}	I _C = -1mAdc, I _B = 0	-160			V
Emitter-base voltage	V _{EBO}	I _E = -10μAdc, I _C = 0	-6			V
Collector-base cut-off current	I _{CBO}	V _{CB} = -120Vdc			-50	nA
Emitter-emitter cut-off current	I _{EBO}	V _{EB} = -4Vdc			-50	nA
DC current gain	h _{FE(1)}	V _{CE} = -5Vdc, I _C = -1mA	80			
	h _{FE(2)}	V _{CE} = -5Vdc, I _C = -10mA	100		300	
	h _{FE(3)}	V _{CE} = -5Vdc, 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} = -5Vdc, I _C = -10mAdc, f = 30MHz	100		300	MHz

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

Fig.1 - Static Characteristic

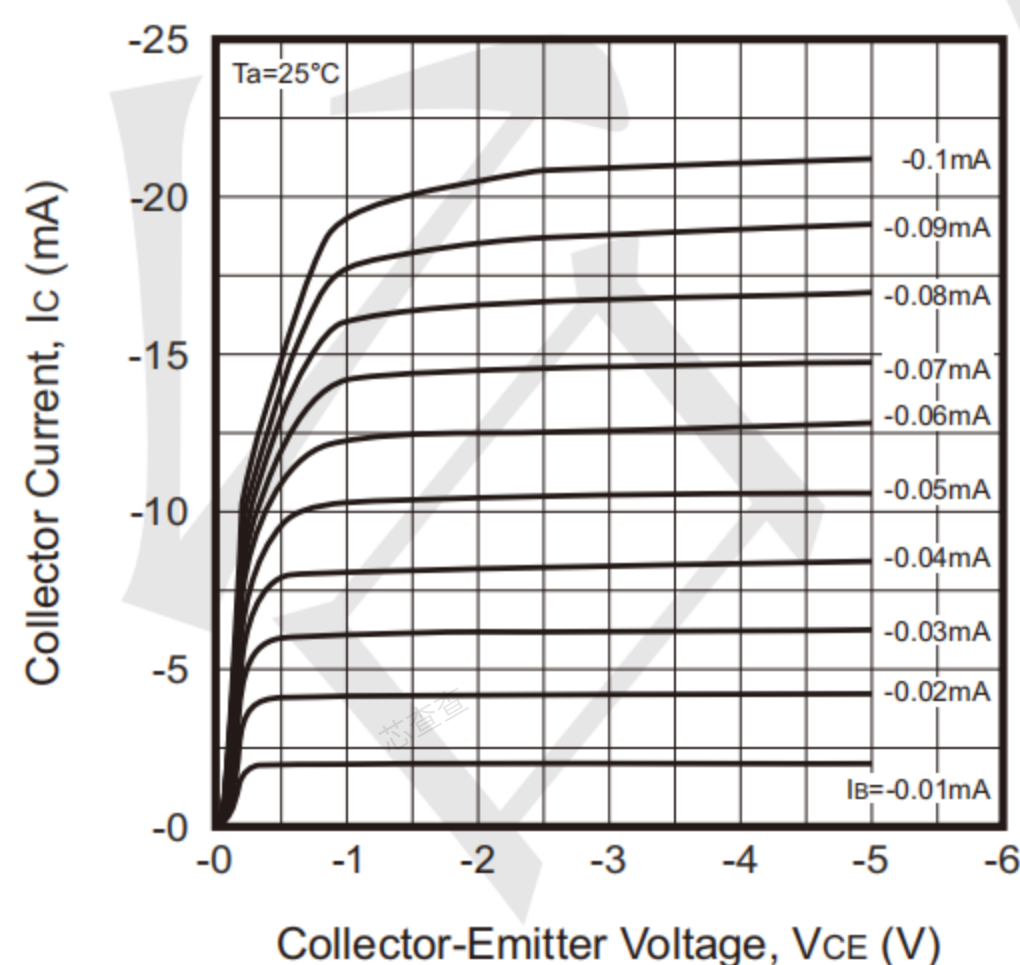
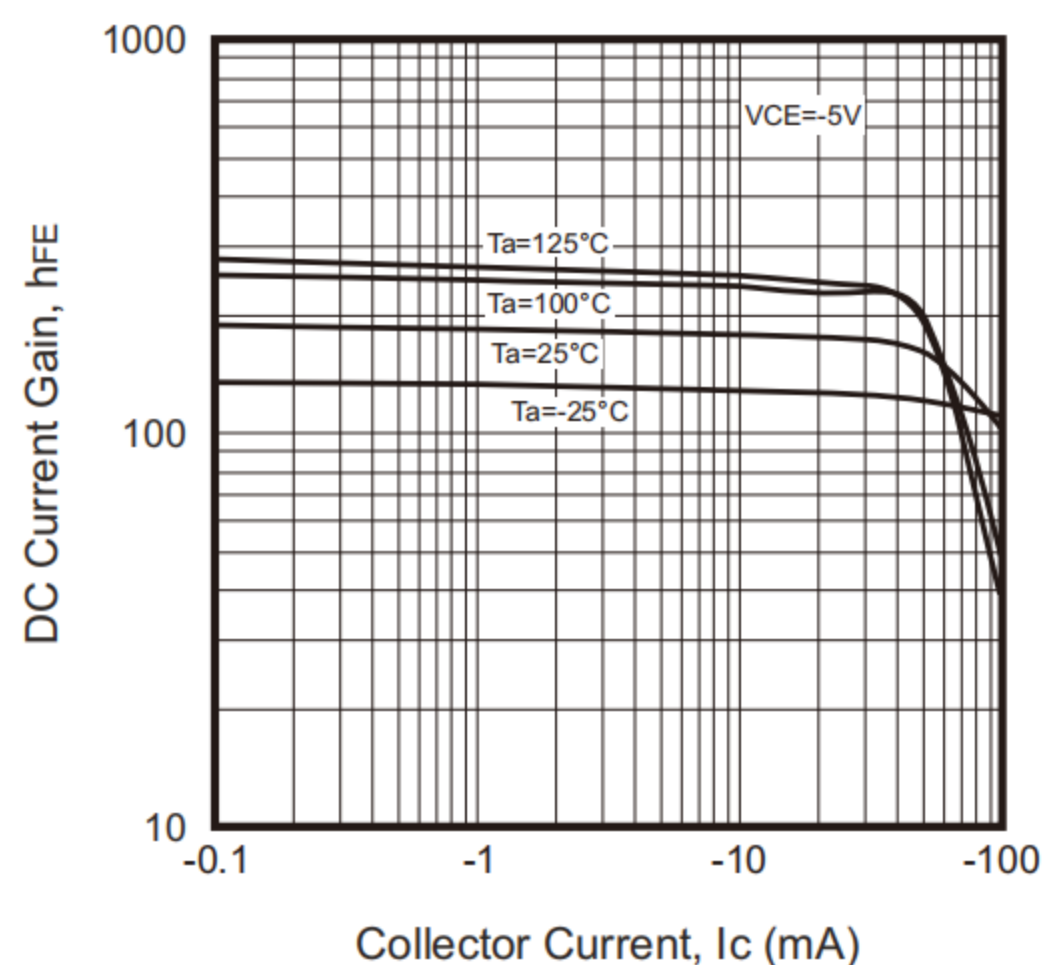


Fig.2 - DC Current Gain



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

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Fig.3 - Collector-Emitter Saturation Voltage

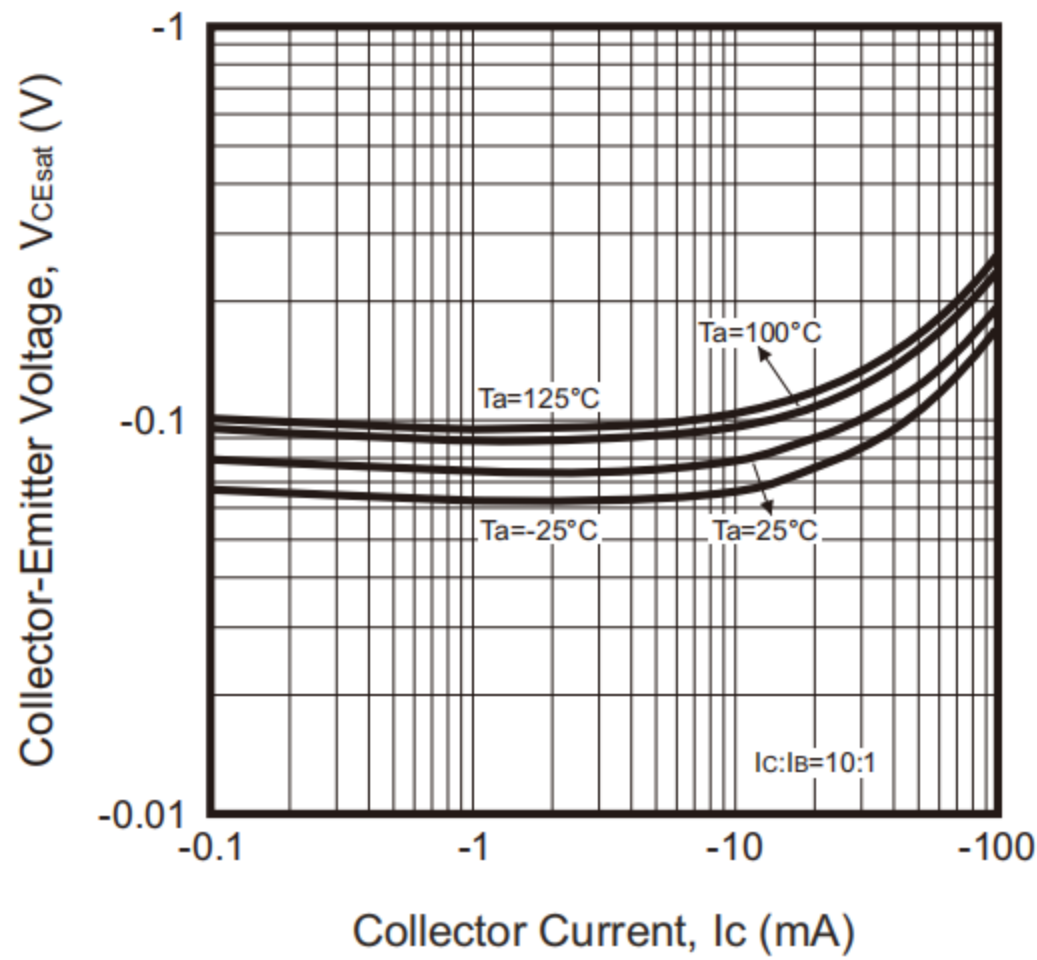


Fig.4 - Base-Emitter Saturation Voltage

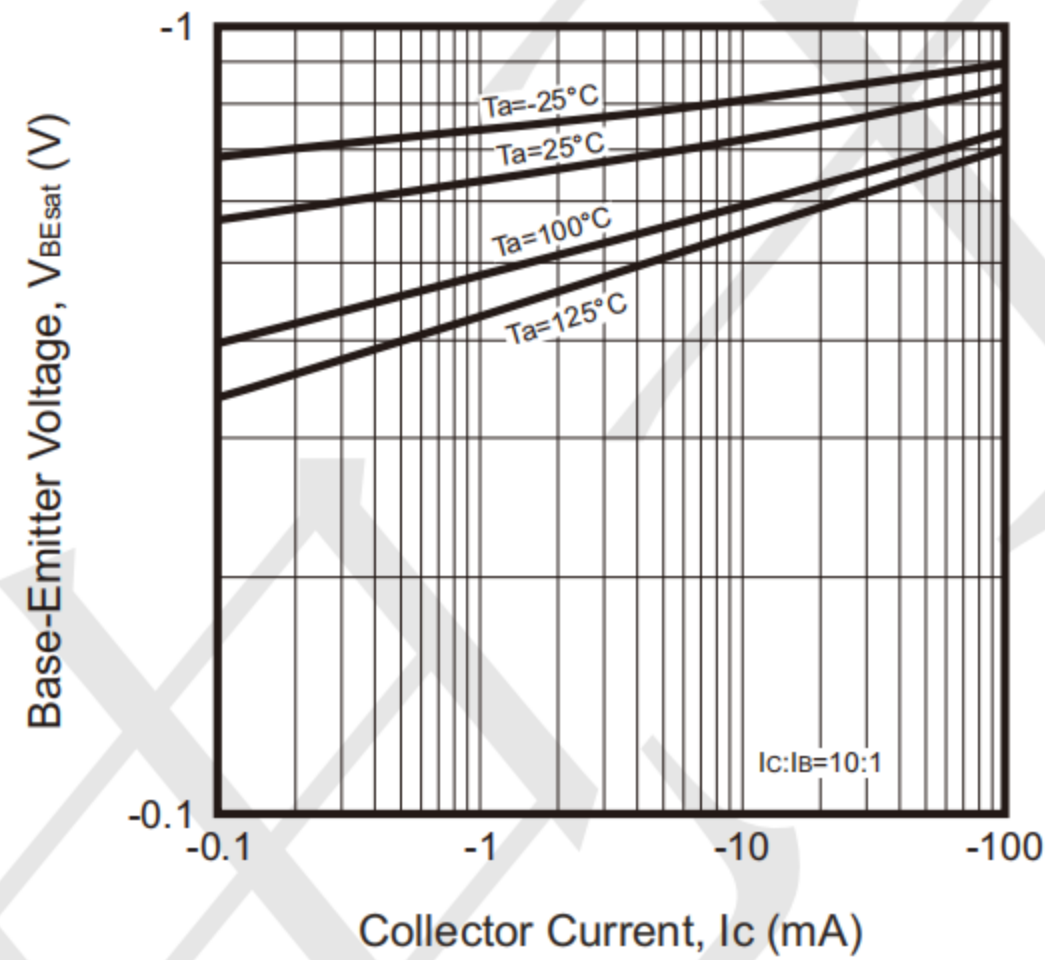


Fig.5 - Base-Emitter on Voltage

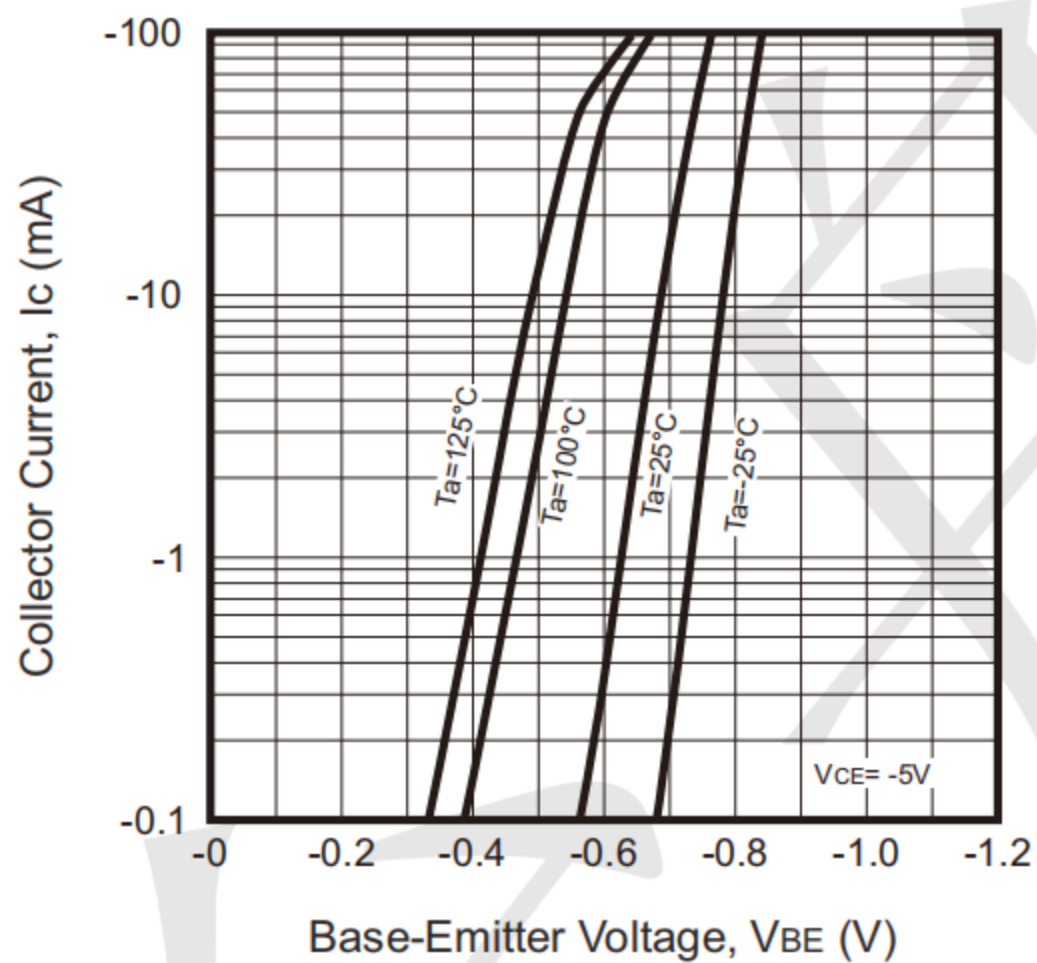


Fig.6 - $C_{ob}/C_{ib} \sim V_{CB}/V_{EB}$

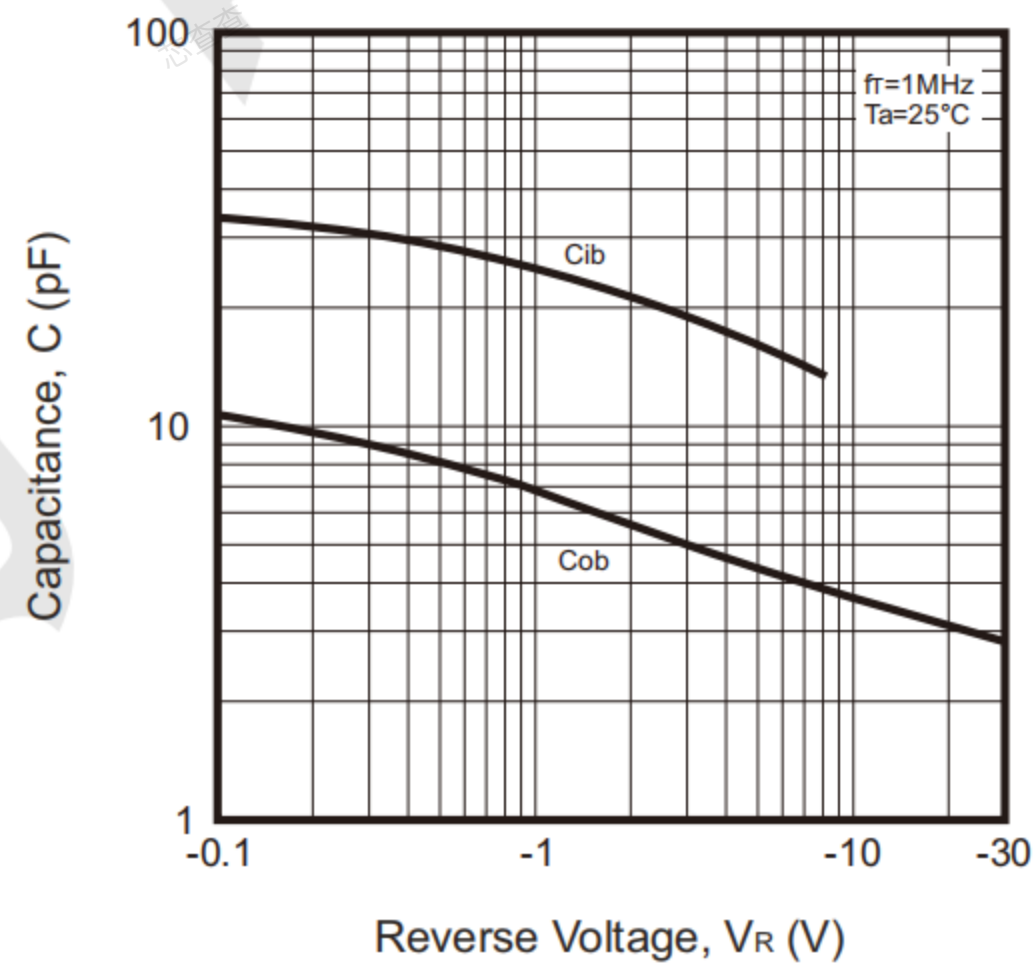
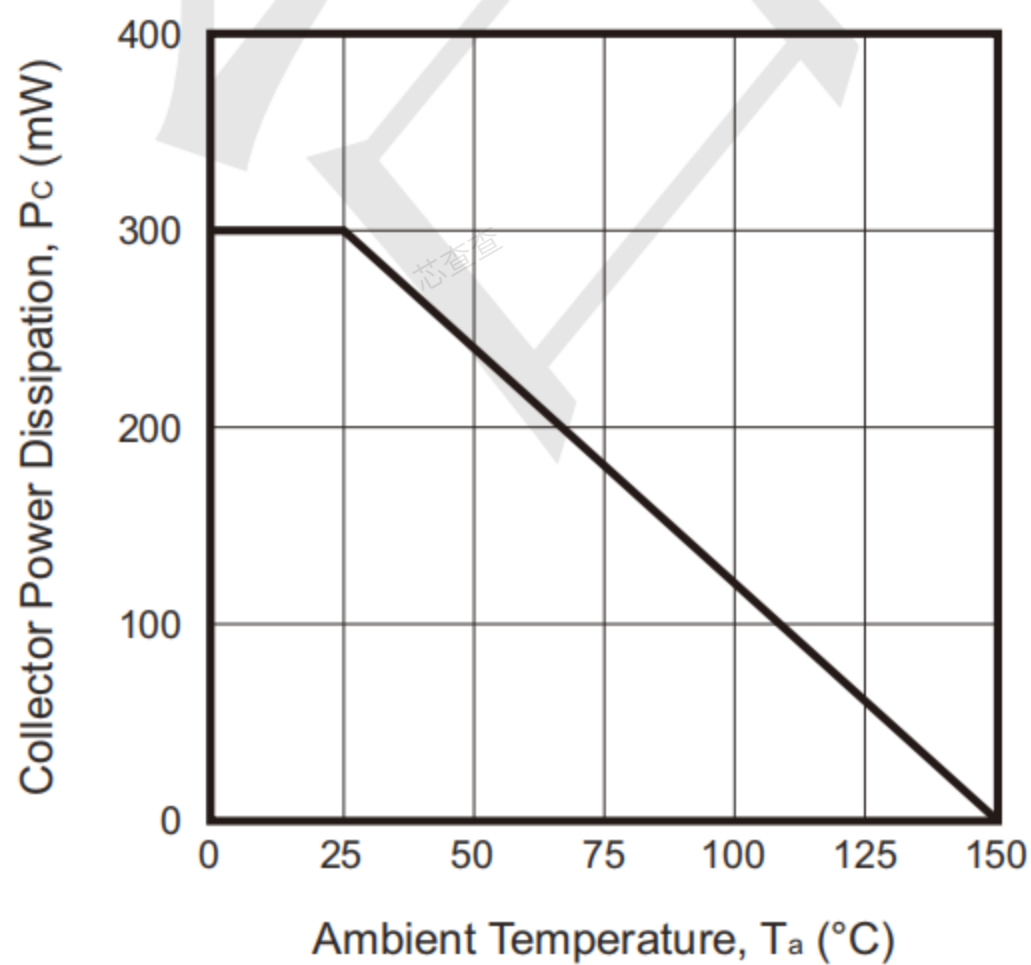


Fig.7 - Collector Power Derating Curve





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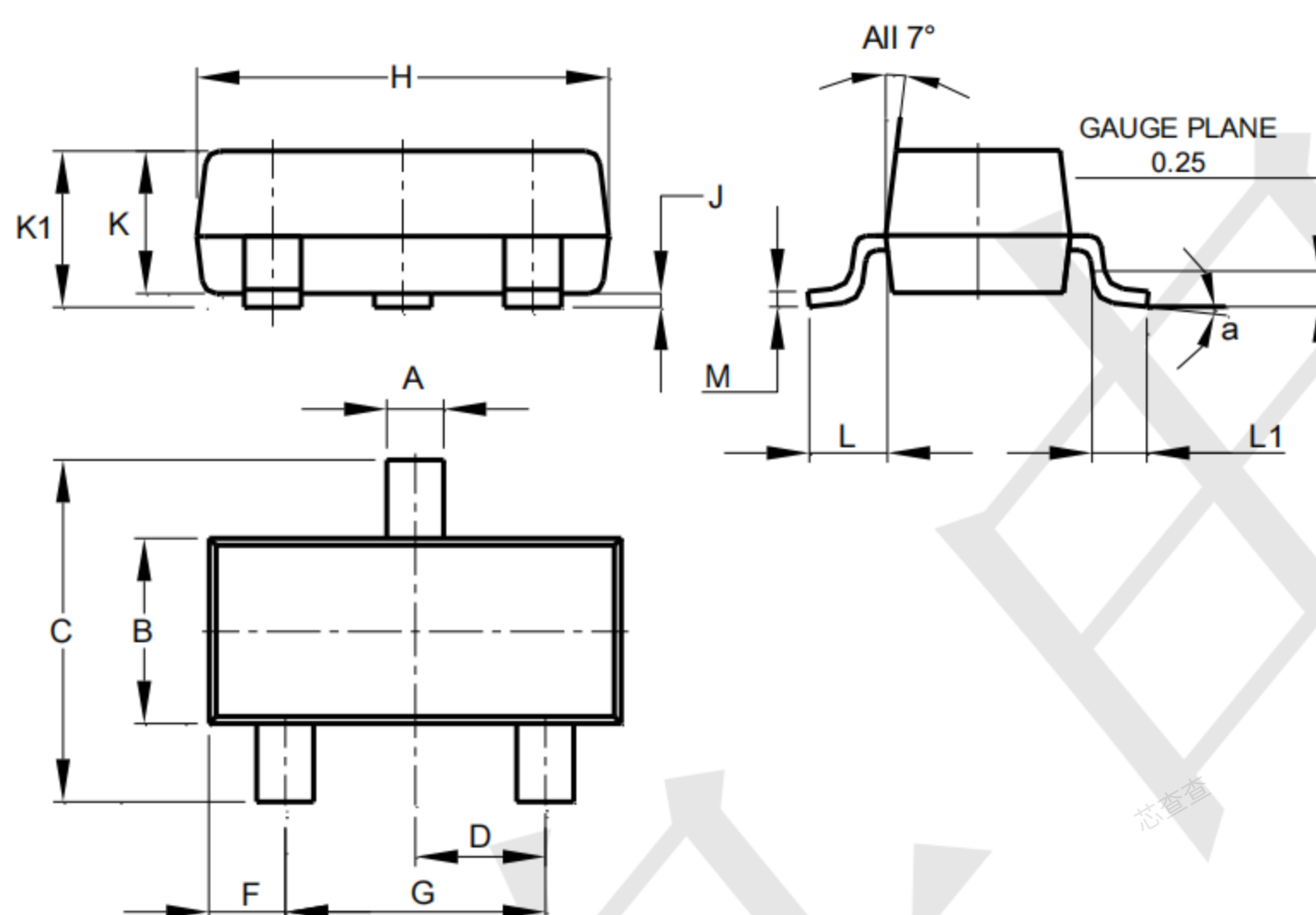
—台用电子—

2N5401S

PNP Switching Transistor

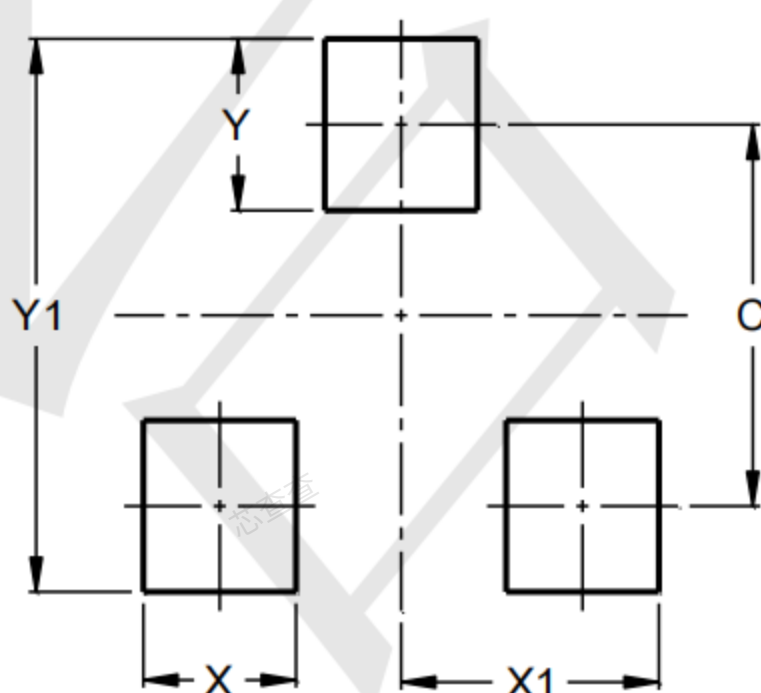
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Outline Drawing - SOT23



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