



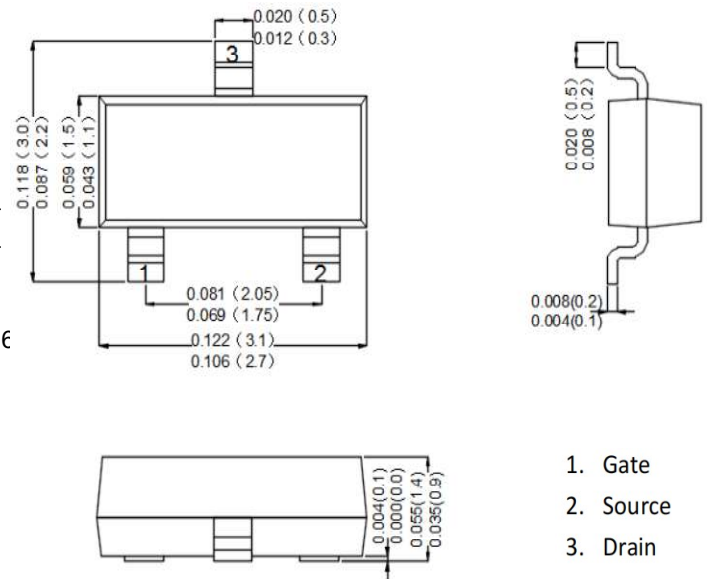
### Features

- Epoxy meets UL-94 V-0 flammability rating.
- Power Dissipation of 200mW.
- High Stability and High Reliability.
- Low  $C_{ob}$ ,  $C_{ob} = 2.0$  pF (Typ).

### Mechanical Data

- Case: SOT-23.
- Terminals: Plated Leads Solderable per MIL-STD-750, Method-2026
- Mounting Position: Any.

### SOT-23



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	UNIT
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	150	mA
Collector Power Dissipation	$P_C$	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{STG}$	-55~ +150	°C



### Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	7			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=7V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=6V, I_C=1mA$	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$			0.4	V
Transition frequency	$f_T$	$V_{CE}=12V, I_C=-2mA, f=100MHz$		160		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=12V, I_E=0, f=1MHz$		2.0	3.5	pF

### CLASSIFICATION OF $h_{FE}$

Rank	Q	R	S
Range	120 - 270	180 - 390	270 - 560
Marking	BQ	BR	BS



### Rating And Characteristic Curves

Fig1:  $V_{CE} \text{ — } I_C$

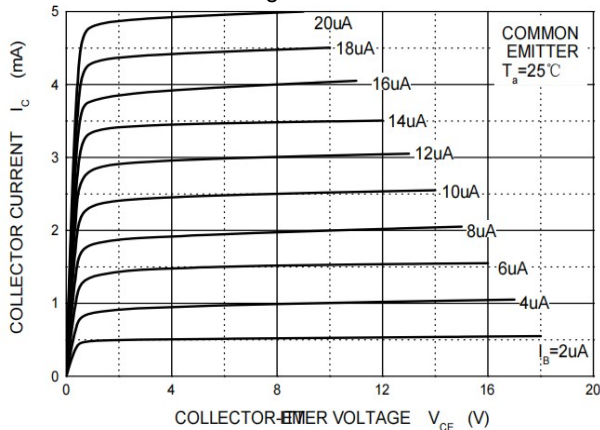


Fig2:  $h_{FE} \text{ — } I_C$

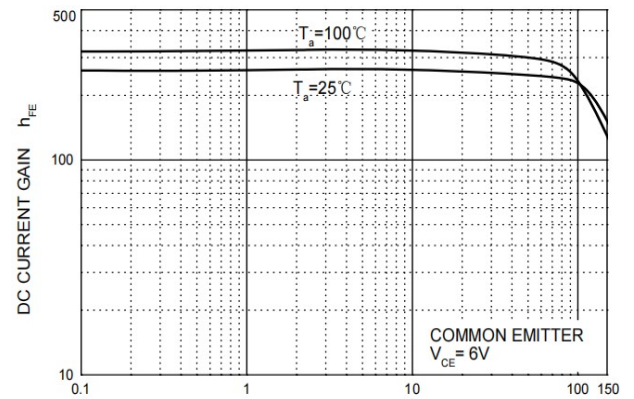


Fig3:  $V_{CEsat} \text{ — } I_C$

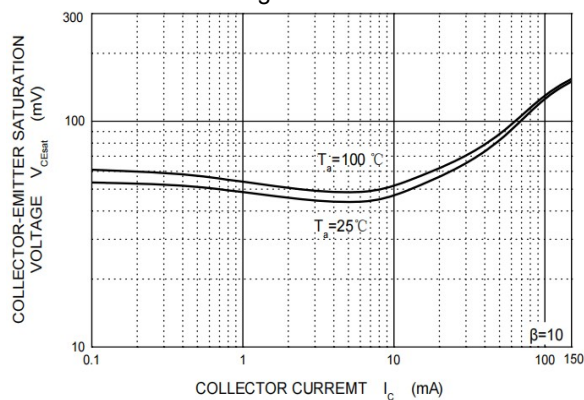


Fig4:  $V_{BEsat} \text{ — } I_C$

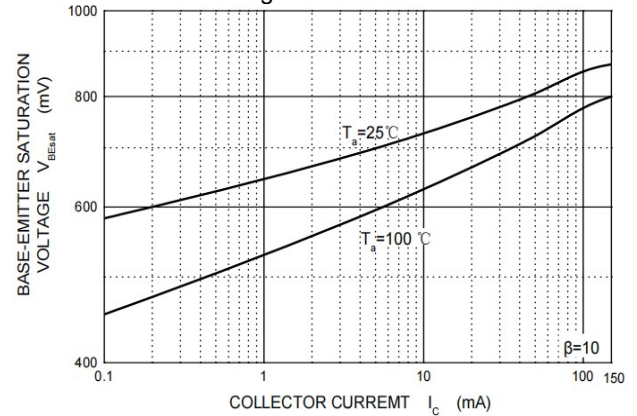


Fig5:  $I_C \text{ — } V_{BE}$

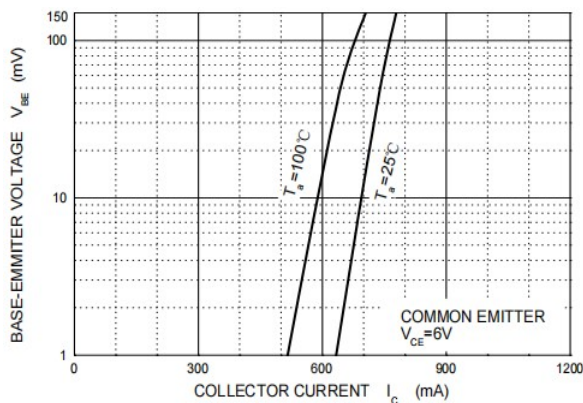


Fig6:  $f_T \text{ — } I_C$

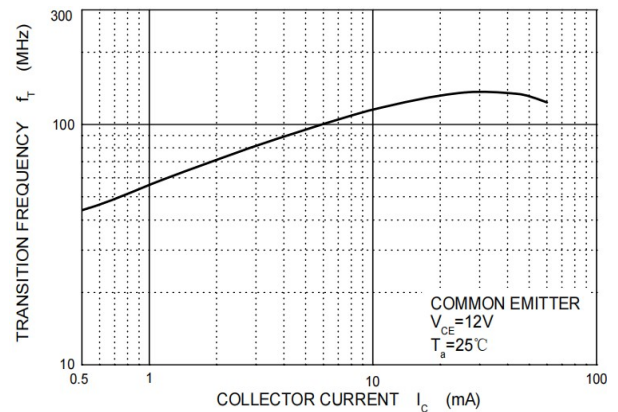


Fig7:  $C_{ob}/C_{ib} \text{ — } V_{CB}/V_{EB}$

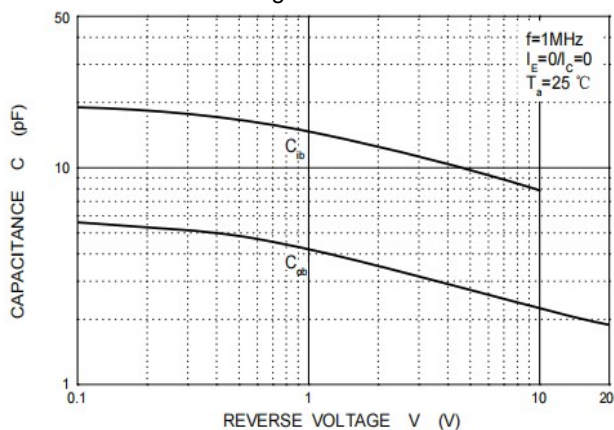
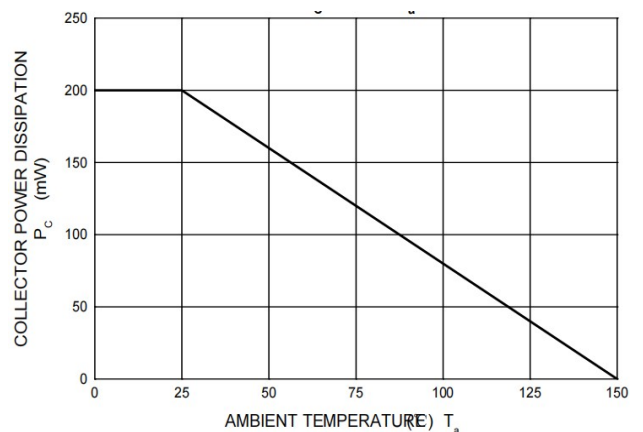


Fig8:  $P_C \text{ — } T_a$





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