

SOT-23 Plastic-Encapsulate Transistors

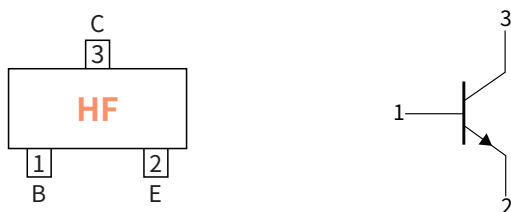
Features

- Power dissipation of 200mW
- High stability and high reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

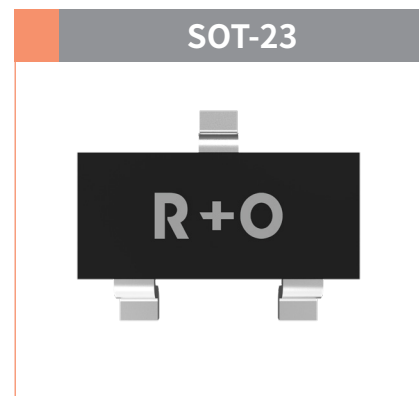
Mechanical Data

- Case: SOT-23
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Function Diagram



Collector-Base Voltage
VCBO 60V
Collector Current
0.15Ampere



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	V_{CB0}	V	60
Collector-Emitter Voltage	V_{CE0}		50
Emitter-Base Voltage	V_{EB0}		5.0
Collector Current	I_C	A	0.15
Collector Power Dissipation	P_C	mW	200
Storage temperature	T_{stg}	°C	-55 ~+125
Junction temperature	T_j	°C	-55 ~+150
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	417

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition	Min	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=100\mu A, I_E=0$	60	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=0.1mA, I_B=0$	50	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=100\mu A, I_C=0$	5.0	—
Collector-Emitter cut-off current	I_{CEO}	μA	$V_{CE}=50V, I_B=0$	—	0.1
Collector-Base cut-off current	I_{CBO}		$V_{CB}=60V, I_E=0$	—	0.1
Emitter-Base cut-off current	I_{EBO}		$V_{EB}=5V, I_C=0$	—	0.1
DC Current Gain	h_{FE}	—	$I_C=2mA, V_{CE}=6.0V$	130	400
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=100mA, I_B=10mA$	—	0.25
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=100mA, I_B=10mA$	—	1.0

● Classification Of h_{FE}

RANK	L	H
Range	130-200	200-400

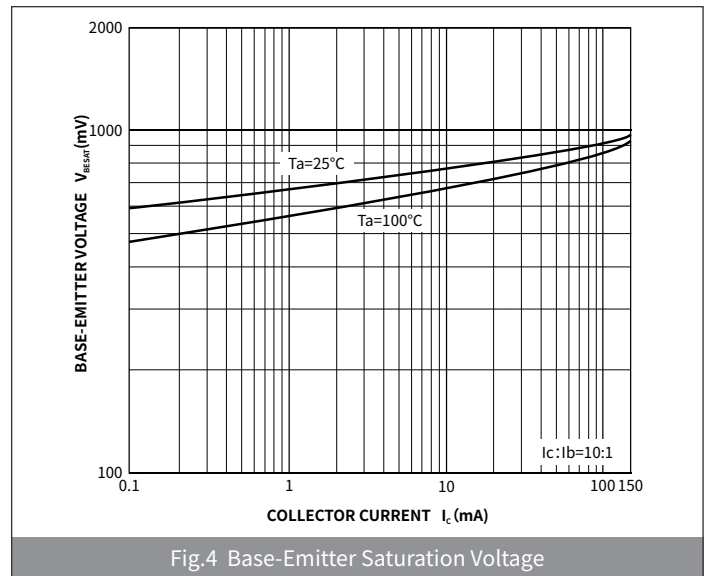
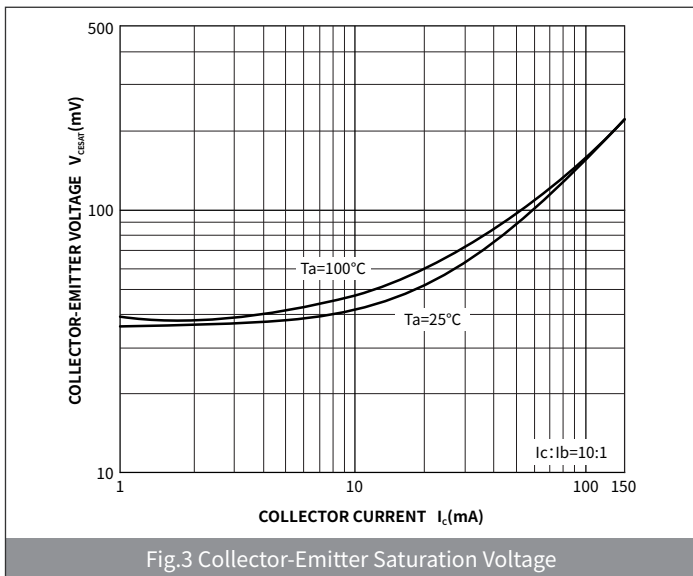
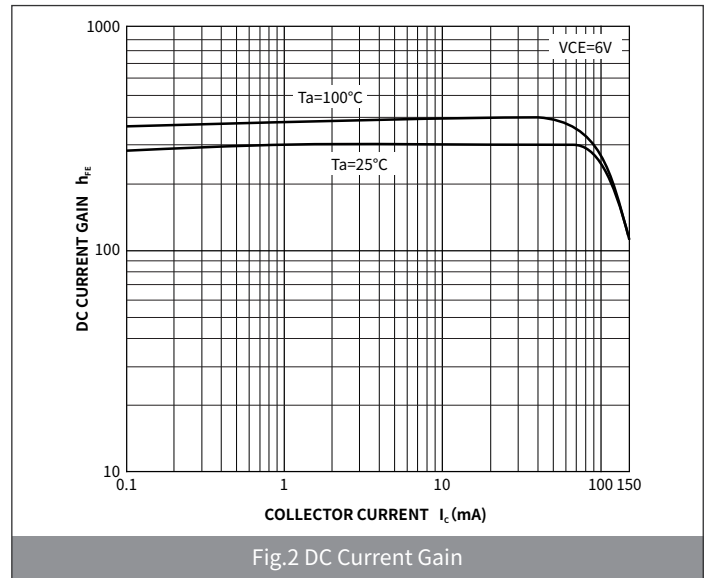
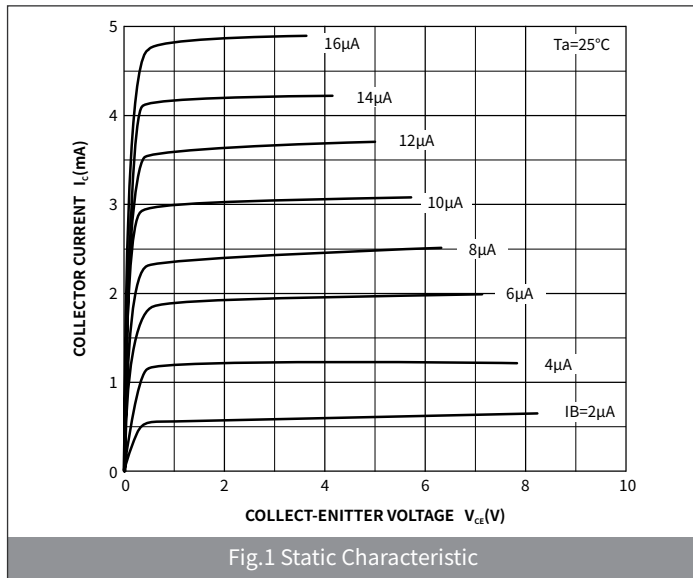
● Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Max
Transition frequency	f_T	$I_C=1mA, V_{CE}=10V, f=30MHz$	MHz	80	—

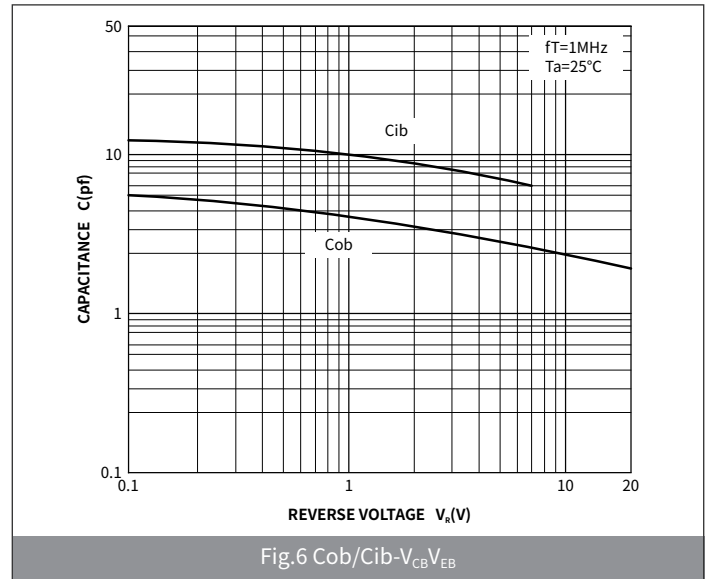
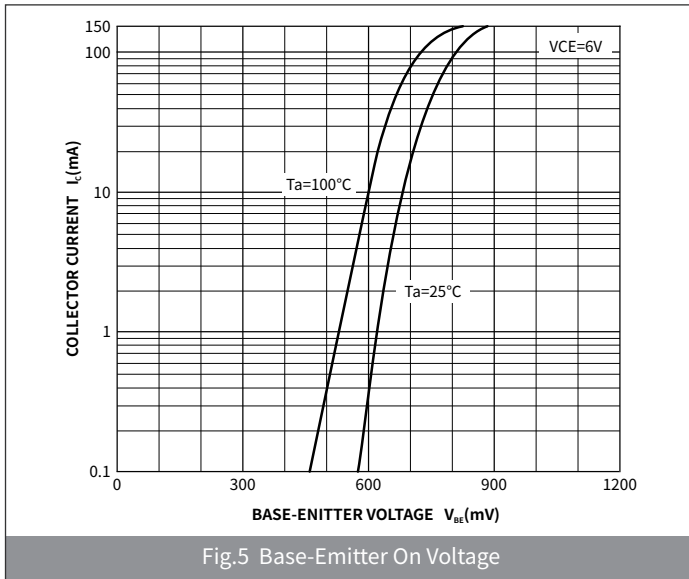
● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7"

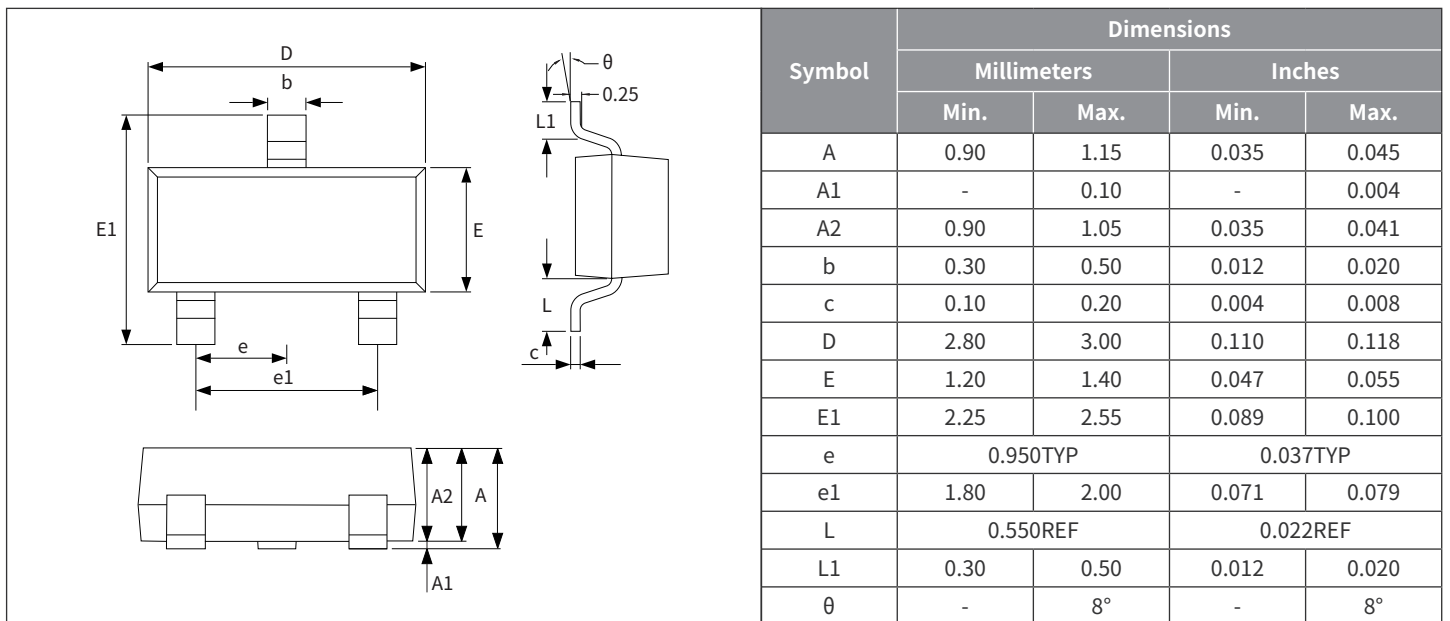
● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



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● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

