

SOT-23 Plastic-Encapsulate Transistors

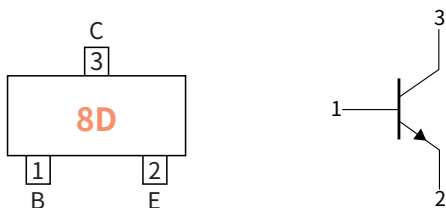
Features

- Power dissipation of 300mW
- Ideal for medium power amplification and switching

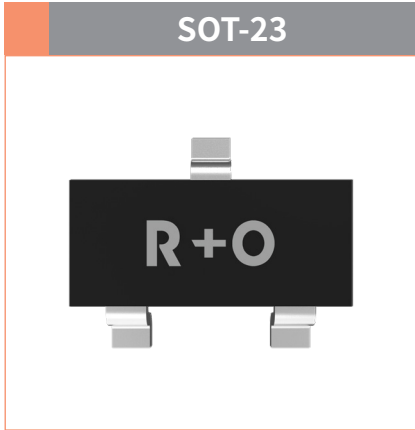
Mechanical Data

- 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-Emitter Voltage
VCEO 420V
Collector Current
0.2 Ampere



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

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	V _{CBO}	V	600
Collector-Emitter Voltage	V _{CEO}		420
Emitter-Base Voltage	V _{EBO}		7
Collector Current	I _C	A	0.2
Collector Power Dissipation	P _C	mW	300
Storage temperature	T _{stg}	°C	-55 ~+150
Junction temperature	T _j	°C	-55 ~+150
Typical Thermal Resistance	R _{θJA}	°C /W	400

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

PARAMETER	SYMBOL	UNIT	Condition	Min	Typ	Max
Collector-Base Breakdown Voltage	V _{(BR)CBO}	V	I _C =100μA, I _E =0	600	—	—
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}		I _C =1.0mA, I _B =0	420	—	—
Emitter-Base Breakdown Voltage	V _{(BR)EBO}		I _E =100μA, I _C =0	7	—	—
Collector-Base cut-off current	I _{CBO}	nA	V _{CB} = 600V, I _E =0	—	—	100
Collector-Emitter cut-off current	I _{CEO}		V _{CE} = 400V, I _B =0	—	—	200
Emitter-Base cut-off current	I _{EBO}		V _{EB} = 7V, I _C =0	—	—	100
DC Current Gain	h _{FE}	—	I _C = 20mA, V _{CE} = 10V	18	—	30
			I _C = 0.25mA, V _{CE} = 10V	5	—	—
Collector-Emitter Saturation Voltage	V _{CE(sat)1}	V	I _C = 100mA, I _B = 20mA	—	—	0.5
Base-Emitter Saturation Voltage	V _{BE(sat)1}		I _C = 100mA, I _B = 20mA	—	—	1.2
Fall time	t _f	μS	I _C = 50mA, V _{CC} = 45V, I _{B1} = -I _{B2} = 5mA	—	—	0.3
Storage time	t _s	μS		—	—	1.5

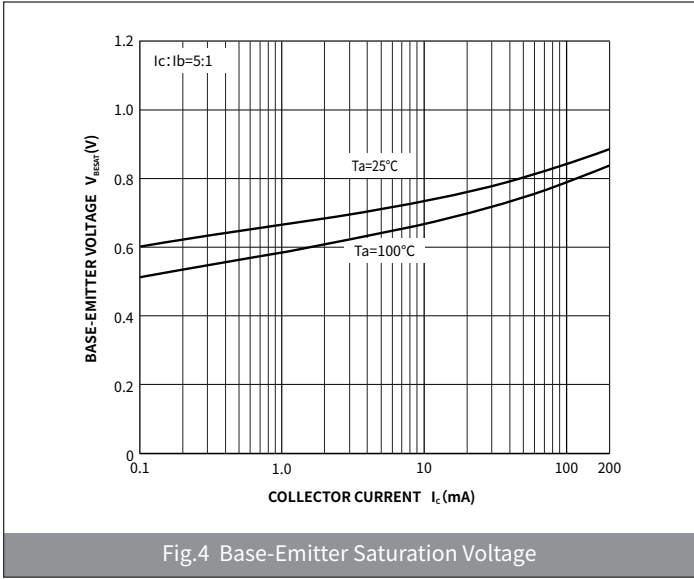
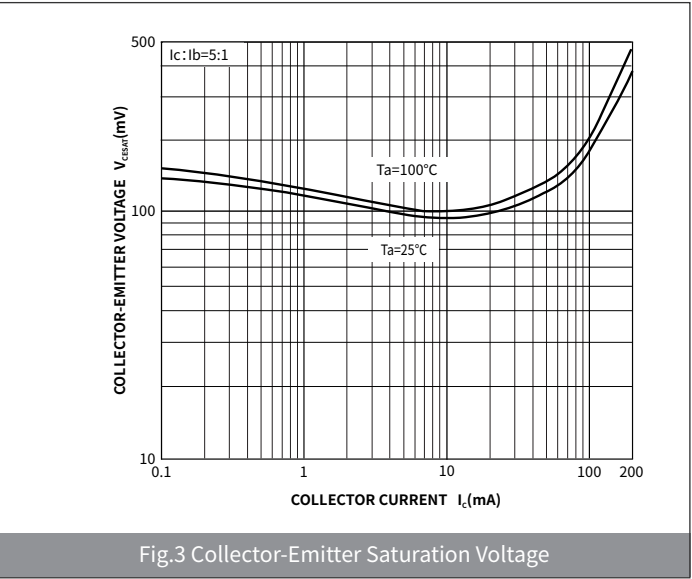
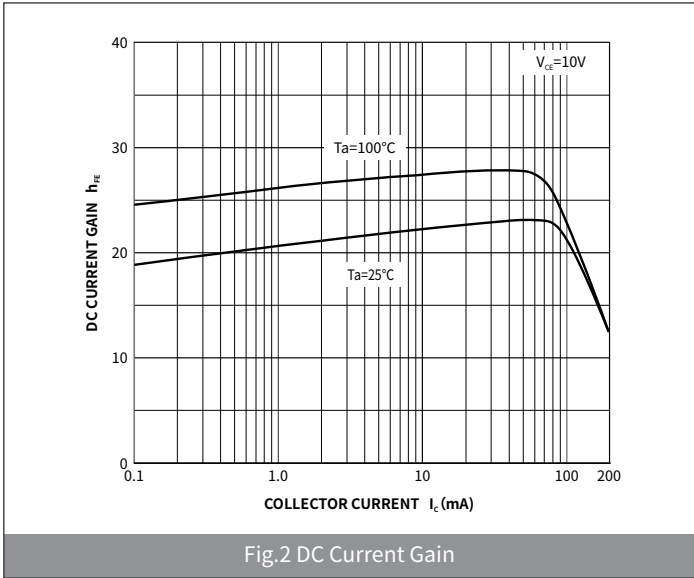
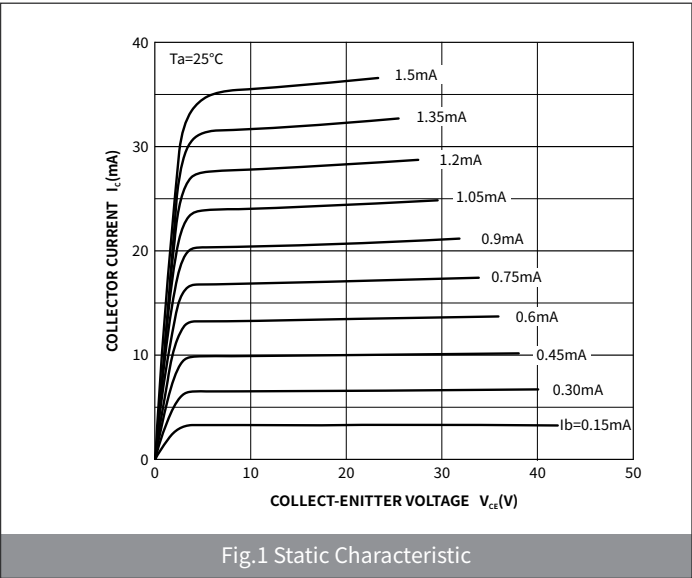
● Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Max
Transition frequency	f_T	$I_C=20\text{mA}, V_{CE}=20\text{V}, f=1\text{MHz}$	MHz	8	—

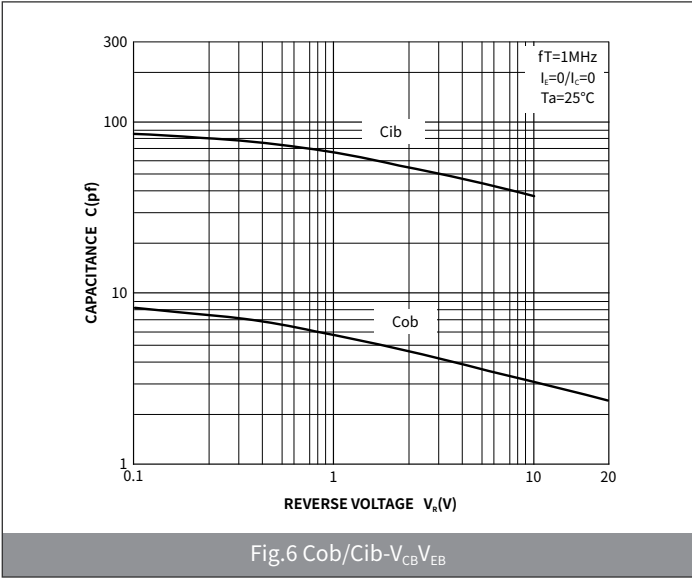
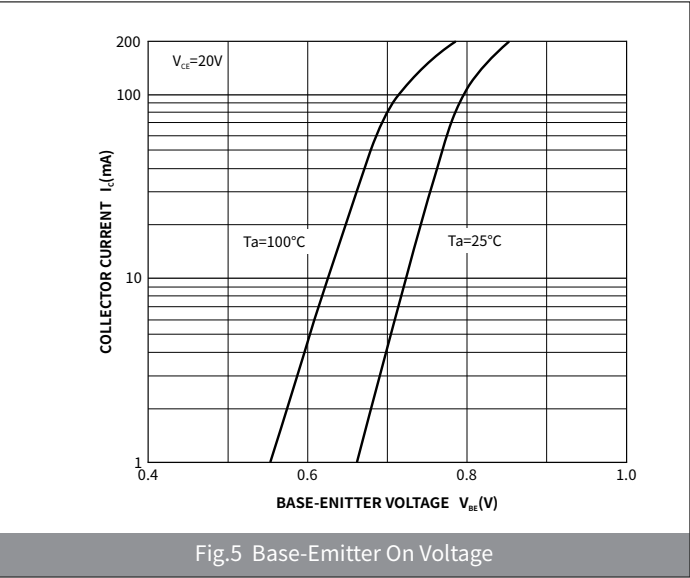
● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	30000	180000	7"

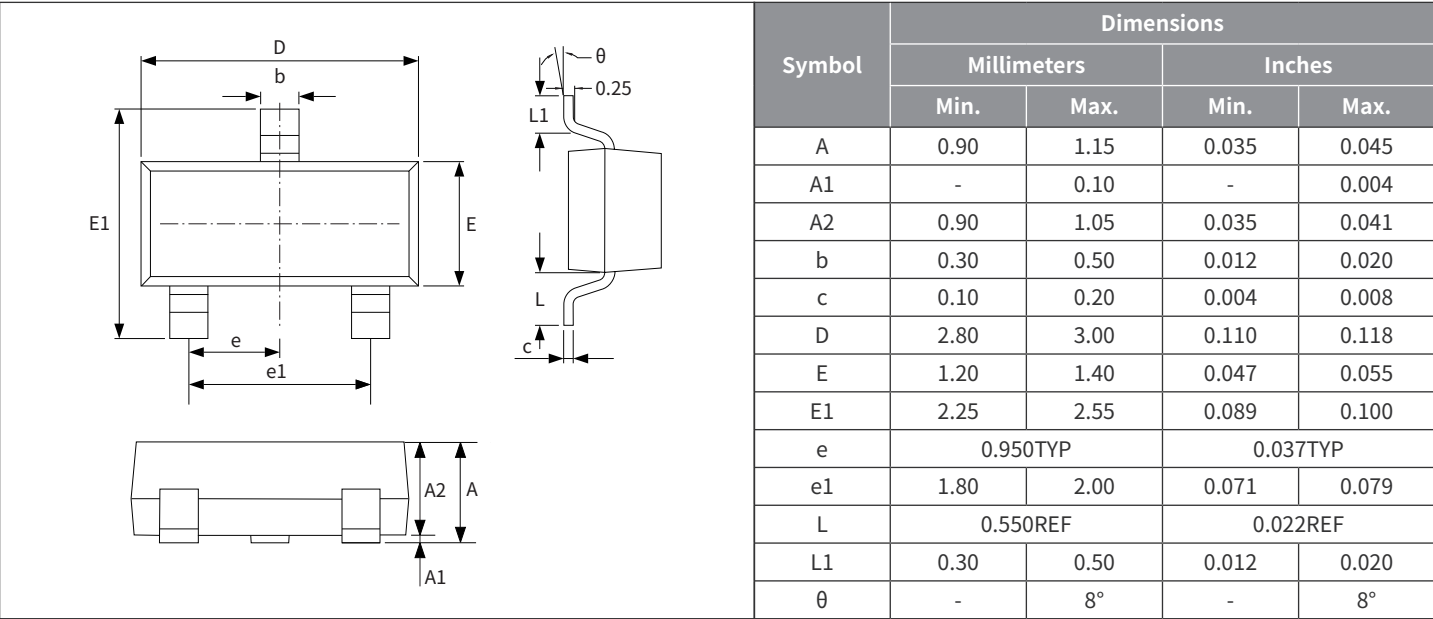
● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



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Package Outline Dimensions (SOT-23)



Suggested Pad Layout

