

SOT-23 Plastic-Encapsulate Transistors

Features

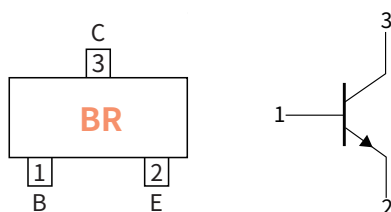
- Power dissipation of 200mW
- High stability and high reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Mechanical Data

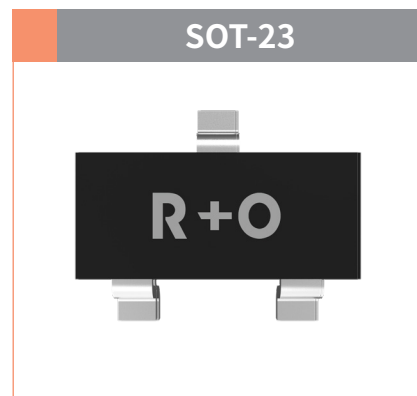
- Case: SOT-23
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Function Diagram

XX = Device Code
BQ=2SC2412(Q)
BR=2SC2412(R)
BS=2SC2412(S)



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_{CBO}	V	60
Collector-Emitter Voltage	V_{CEO}		50
Emitter-Base Voltage	V_{EBO}		7.0
Collector Current	I_C	mA	150
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	625

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

PARAMETER	SYMBOL	UNIT	Condition	Min	Typ	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=50\mu A, I_E=0$	60	—	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=1.0mA, I_B=0$	50	—	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=50\mu A, I_C=0$	7.0	—	—
Collector-Base cut-off current	I_{CBO}	μA	$V_{CB}=60V, I_E=0$	—	—	0.1
Emitter-Base cut-off current	I_{EBO}		$V_{EB}=7.0V, I_C=0$	—	—	0.1
DC Current Gain	h_{FE}	—	$I_C=1.0mA, V_{CE}=6.0V$	120	—	560
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=50mA, I_B=5.0mA$	—	—	0.4
Output Capacitance	C_{ob}	pF	$V_{CB}=-12V, I_E=0, f=1MHz$	—	2.0	3.5

● **Classification Of h_{FE}**

RANK	Q	R	S
Range	120-270	180-390	270-560

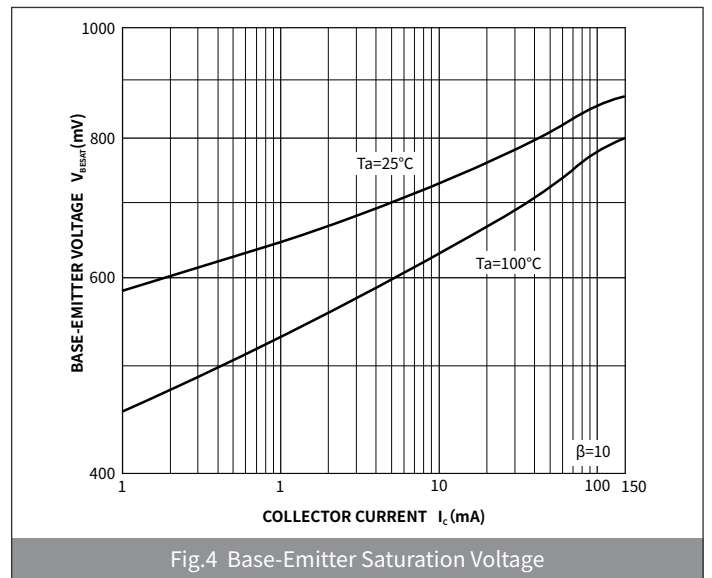
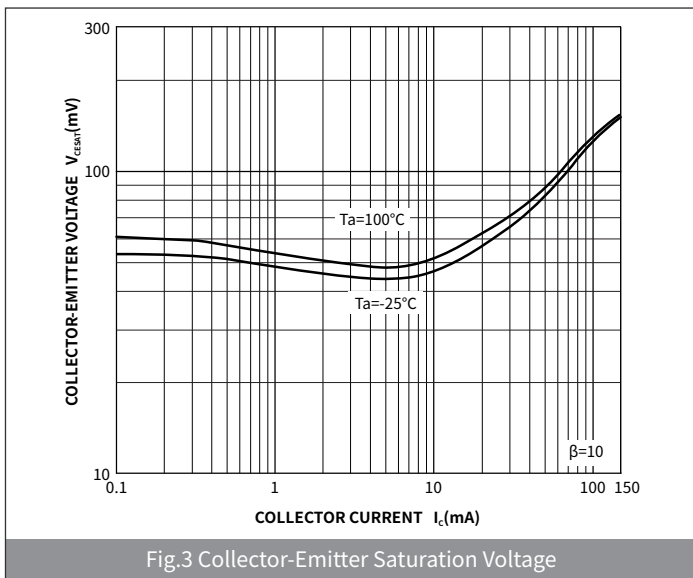
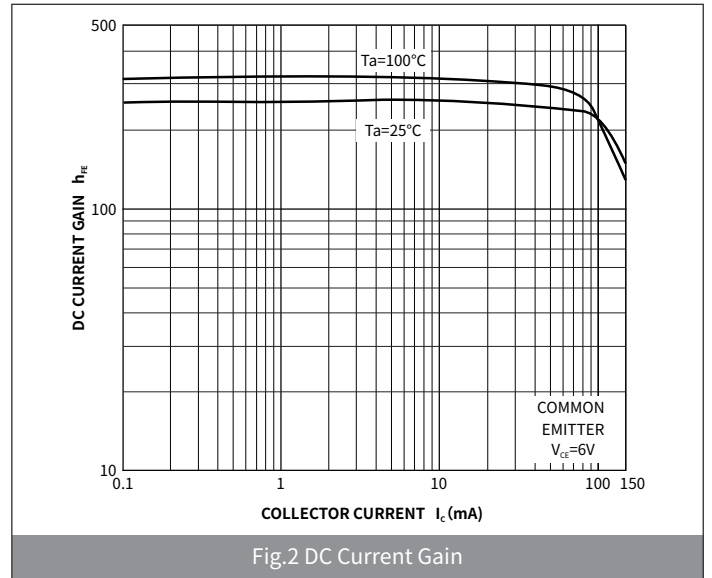
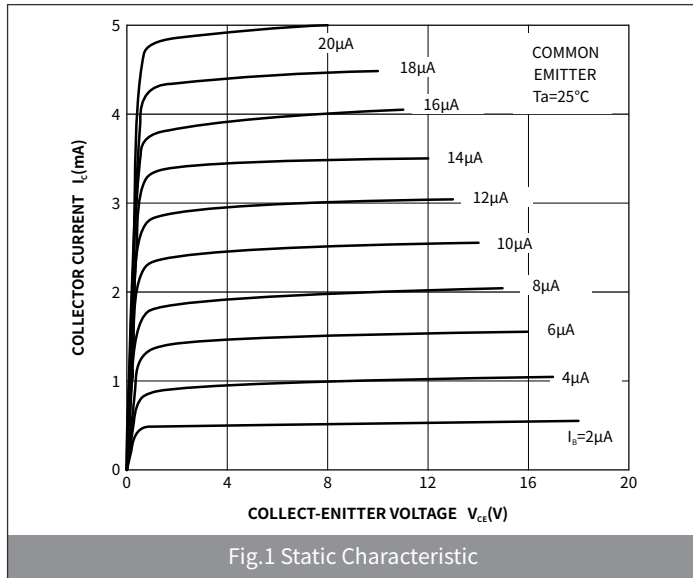
● **Small-signal Characteristics**

ITEM	SYMBOL	Condition	UNIT	Min	Typ	Max
Transition frequency	f_T	$I_C=2.0mA, V_{CE}=12V$	MHZ	—	180	—

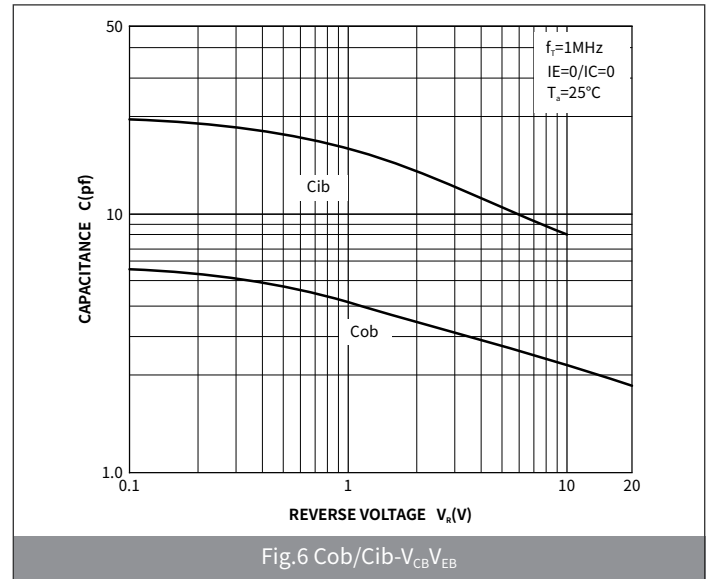
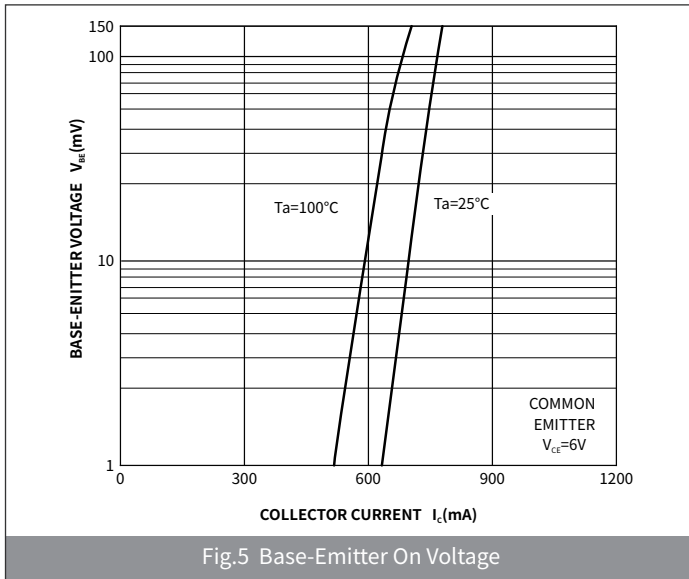
● **Ordering Information**

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

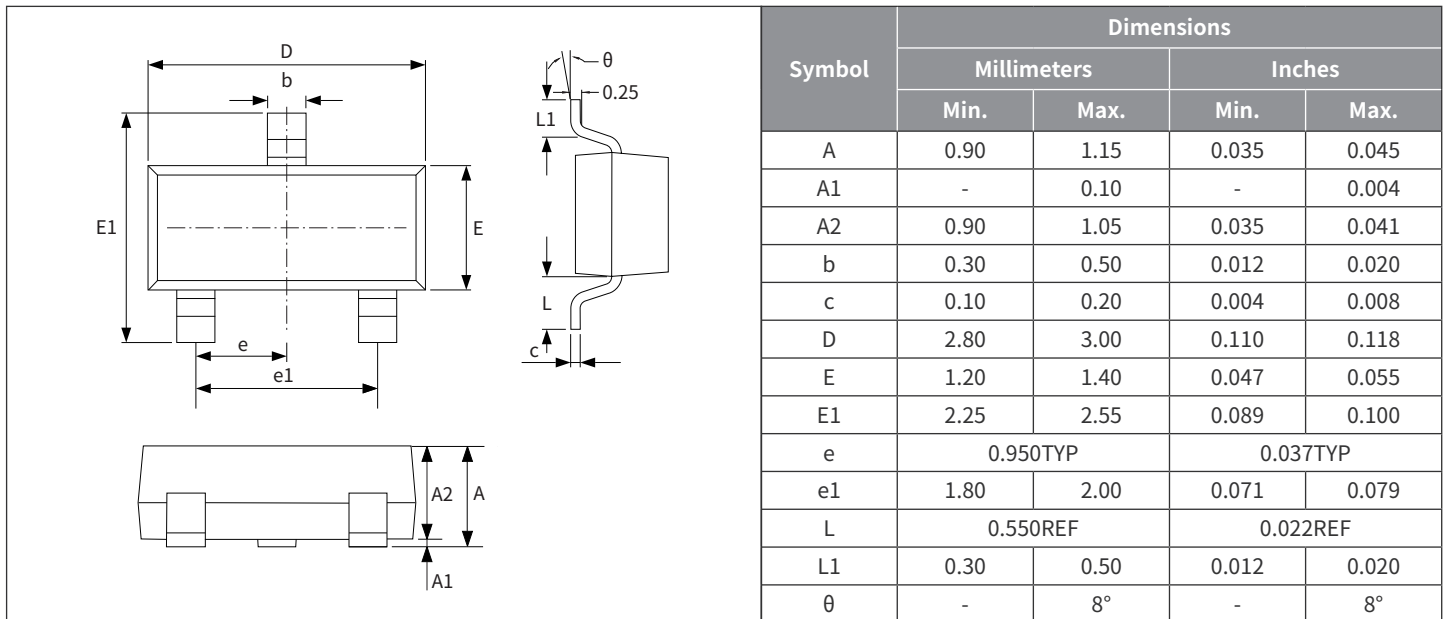
● **Ratings And Characteristics Curves** ($T_a=25^\circ C$ Unless otherwise specified)



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



● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

