

SOT-23 Plastic-Encapsulate Transistors

Features

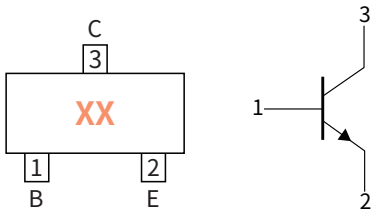
- Complementary to BC856 THRU BC858
- Power dissipation of 200mW
- High stability and high reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Mechanical Data

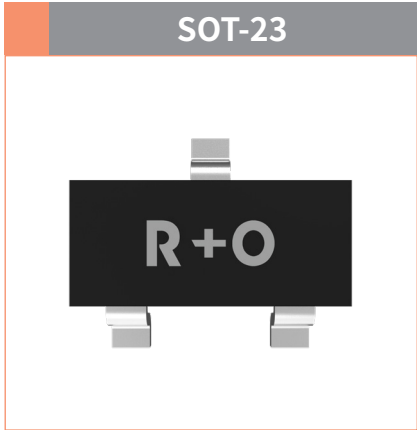
- Case: SOT-23
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

Function Diagram

XX = Device Code
1A = BC846A,1B = BC846B
1E = BC847A,1F = BC847B,1G = BC847C
1J = BC848A,1K = BC848B,1L = BC848C



Collector-Base Voltage
VCBO 80V/50V/30V
Collector Current
0.1Ampere



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

PARAMETER	SYMBOL	UNIT	CONDLITIONS	VALUE
Collector-Base Voltage	V_{CBO}	V	BC846	80
			BC847	50
			BC848	30
Collector-Emitter Voltage	V_{CEO}		BC846	65
			BC847	45
			BC848	30
Emitter-Base Voltage	V_{EBO}		—	6.0
Collector Current	I_C	A	—	0.1
Collector Power Dissipation	P_C	mW	—	200
Storage temperature	T_{stg}	°C	—	-55 ~+150
Junction temperature	T_j	°C	—	-55 ~+150
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	—	625

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"

BC846 THRU BC848

NPN TRANSISTORS

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

PARAMETER	SYMBOL	UNIT	Condition		Min	Max	
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=10\mu A, I_E=0$	BC846	80	—	
				BC847	50	—	
				BC848	30	—	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=10mA, I_B=0$	BC846	65	—	
				BC847	45	—	
				BC848	30	—	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=10\mu A, I_C=0$		6.0	—	
Collector-Base cut-off current	I_{CBO}		μA	$V_{CB}=70V, I_E=0$	BC846	—	0.1
				$V_{CB}=50V, I_E=0$	BC847	—	0.1
		$V_{CB}=30V, I_E=0$		BC848	—	0.1	
Collector-Emitter cut-off current	I_{CEO}	$V_{CE}=60V, I_B=0$		BC846	—	0.1	
		$V_{CE}=45V, I_B=0$		BC847	—	0.1	
		$V_{CE}=30V, I_B=0$		BC848	—	0.1	
Emitter-Base cut-off current	I_{EBO}	$V_{EB}=5.0V, I_C=0$		—	0.1		
DC Current Gain	h_{FE}	—		$I_C=2mA, V_{CE}=5.0V$	BC846A,847A,848A	110	220
					BC846B,847B,848B	200	450
			BC847C,BC848C		420	800	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=100mA, I_B=5mA$		—	0.5	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=100mA, I_B=5mA$		—	1.1	

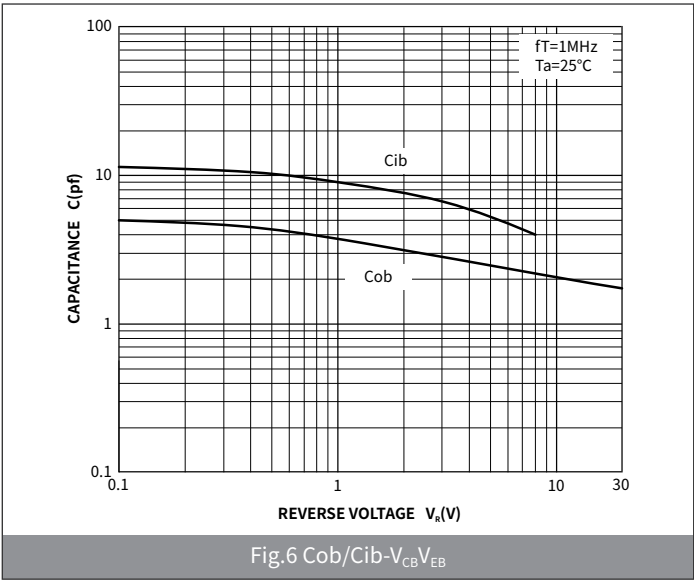
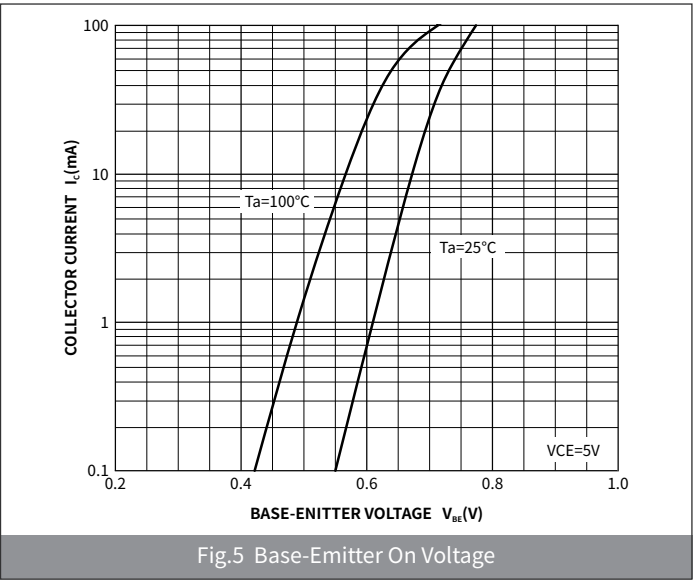
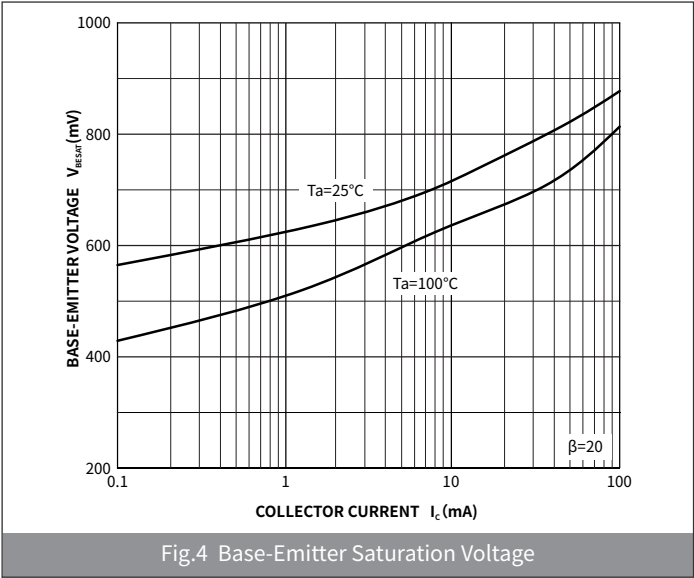
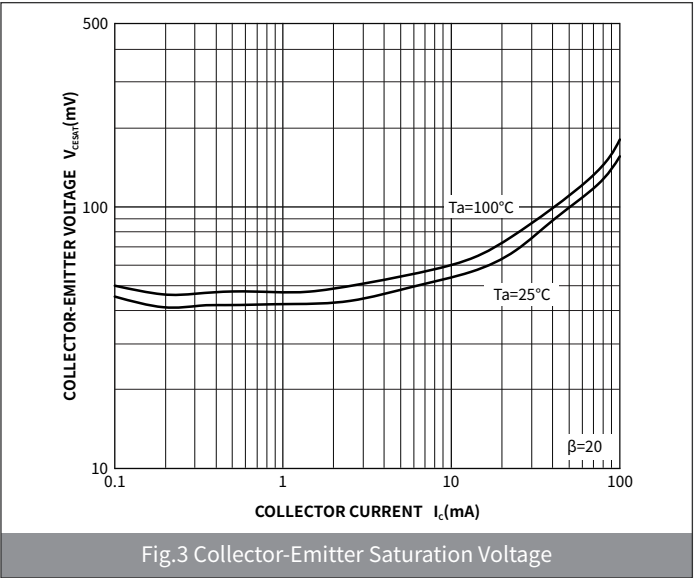
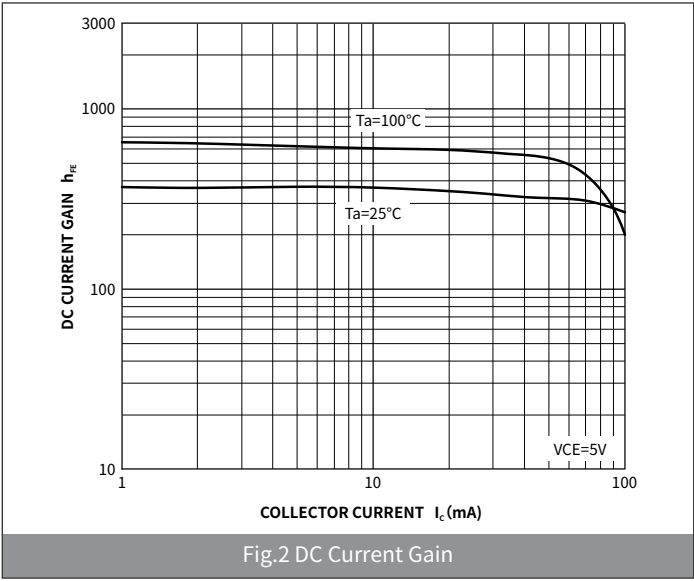
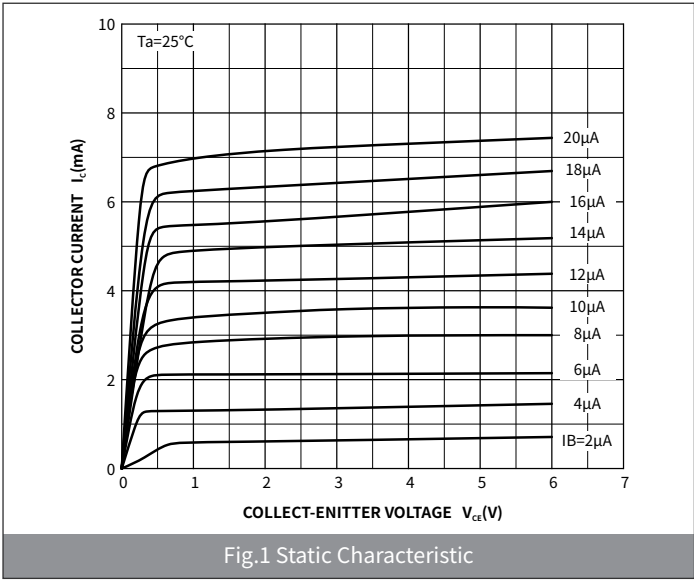
● Classification Of h_{FE}

RANK	A	B	C
Range	110-220	200-450	420-800

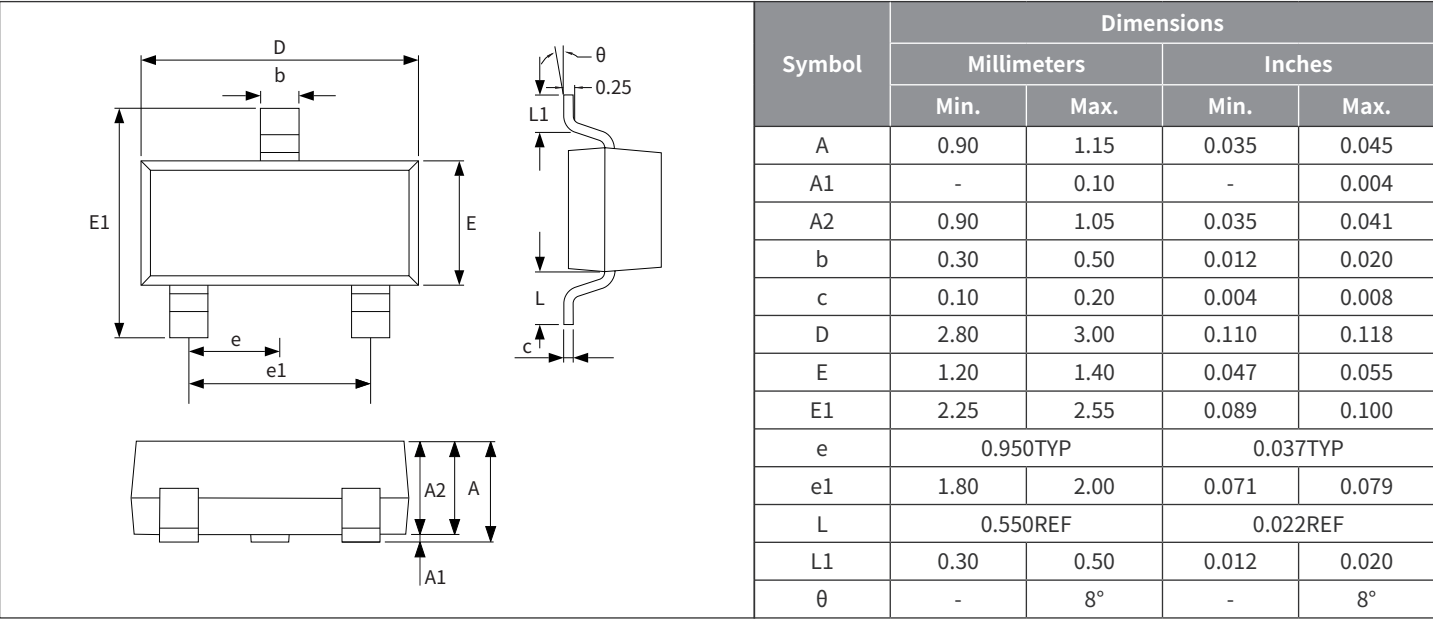
● Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Max
Transition frequency	f_T	$I_C=10mA, V_{CE}=5V, f=100MHz$	MHz	100	—

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



Package Outline Dimensions (SOT-23)



Suggested Pad Layout

