

SOT-23 Plastic-Encapsulate Transistors

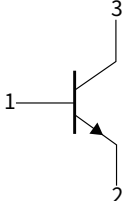
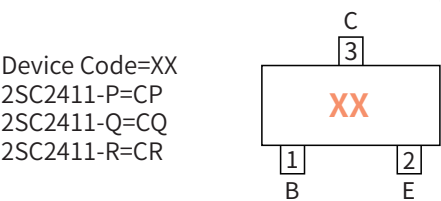
Features

- Power dissipation of 200mW
- High stability and high reliability

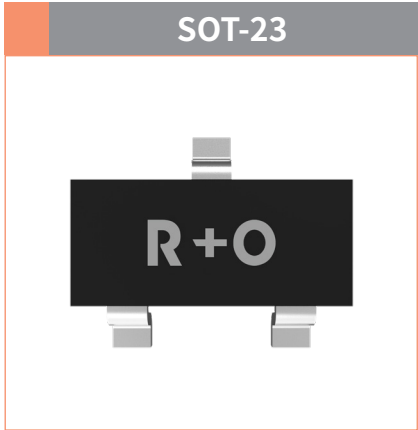
Mechanical Data

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

Function Diagram



Collector-Emitter Voltage
V_{CEO} 32V
Collector Current
0.5 Ampere



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"

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

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	V _{CBO}	V	40
Collector-Emitter Voltage	V _{CEO}		32
Emitter-Base Voltage	V _{EBO}		5
Collector Current	I _C	A	0.5
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 _{θJA}	°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	$I_C=100\mu A, I_E=0$	40	—	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=1mA, I_B=0$	32	—	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=100\mu A, I_C=0$	5	—	—
Collector-Base cut-off current	I_{CBO}	μA	$V_{CB}=20V, I_E=0$	—	—	1
Emitter-Base cut-off current	I_{EBO}		$V_{EB}=4V, I_C=0$	—	—	1
DC Current Gain	h_{FE}	—	$I_C=100mA, V_{CE}=3V$	82	—	390
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=500mA, I_B=50mA$	—	—	0.4
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=500mA, I_B=50mA$	—	—	1.0
Output Capacitance	C_{ob}	pF	$V_{CB}=10V, I_E=0, f=1MHz$	—	6	—

Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Typ	Max
Transition frequency	f_T	$I_C=20mA, V_{CE}=5V$	MHz	—	250	—

Classification Of h_{FE}

RANK	P	Q	R
Range	82-180	120-270	180-390

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

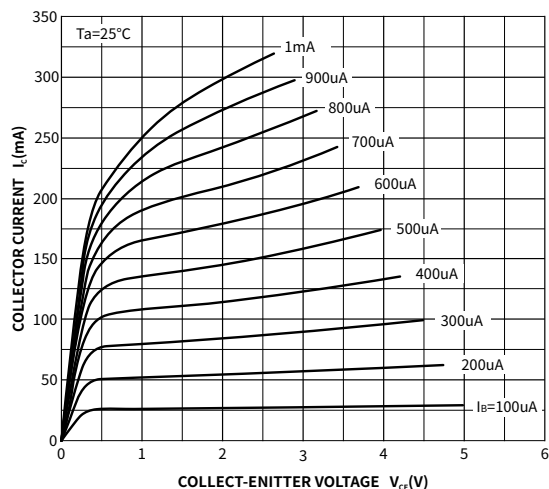


Fig.1 Static Characteristic

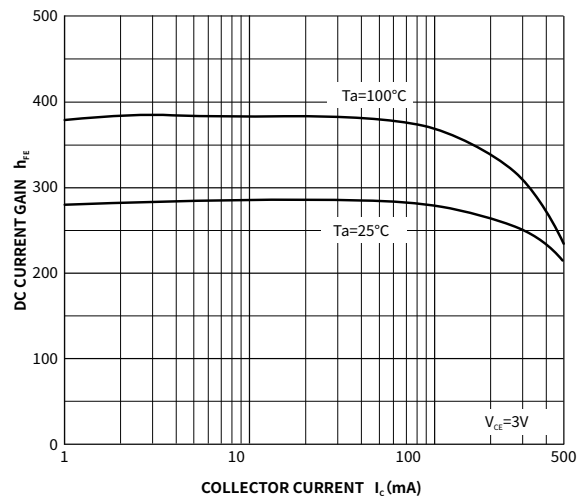


Fig.2 DC Current Gain

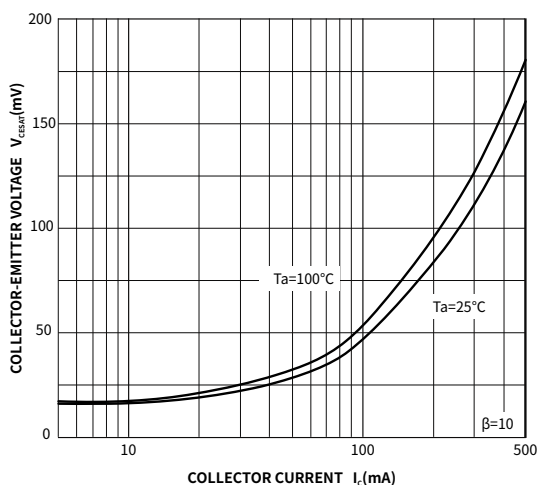


Fig.3 Collector-Emitter Saturation Voltage

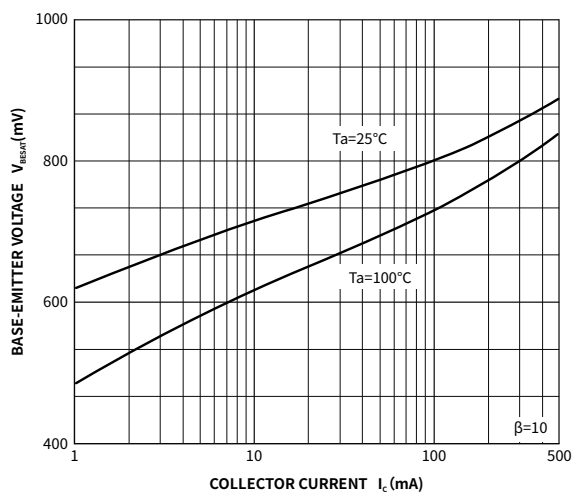


Fig.4 Base-Emitter Saturation Voltage

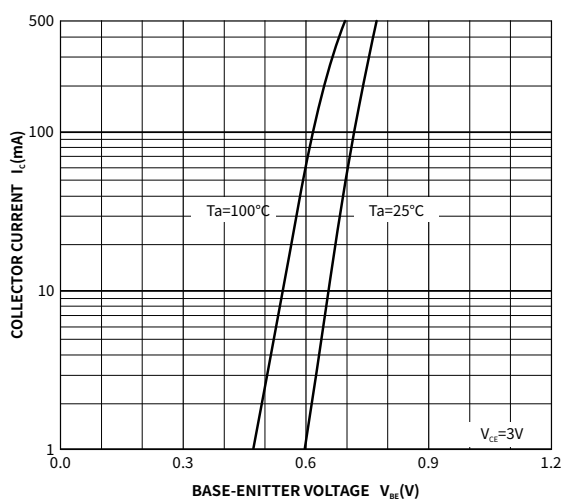


Fig.5 Base-Emitter On Voltage

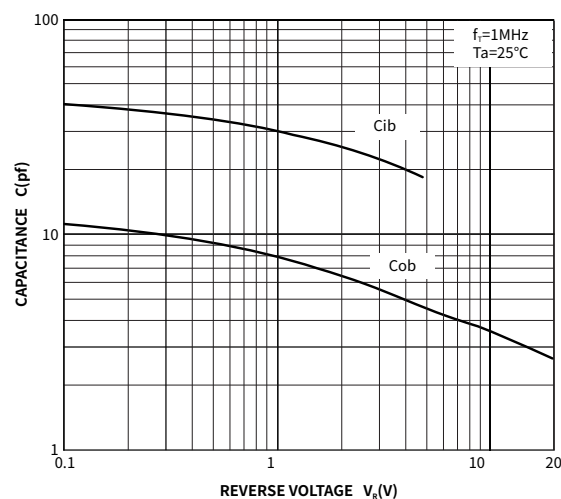
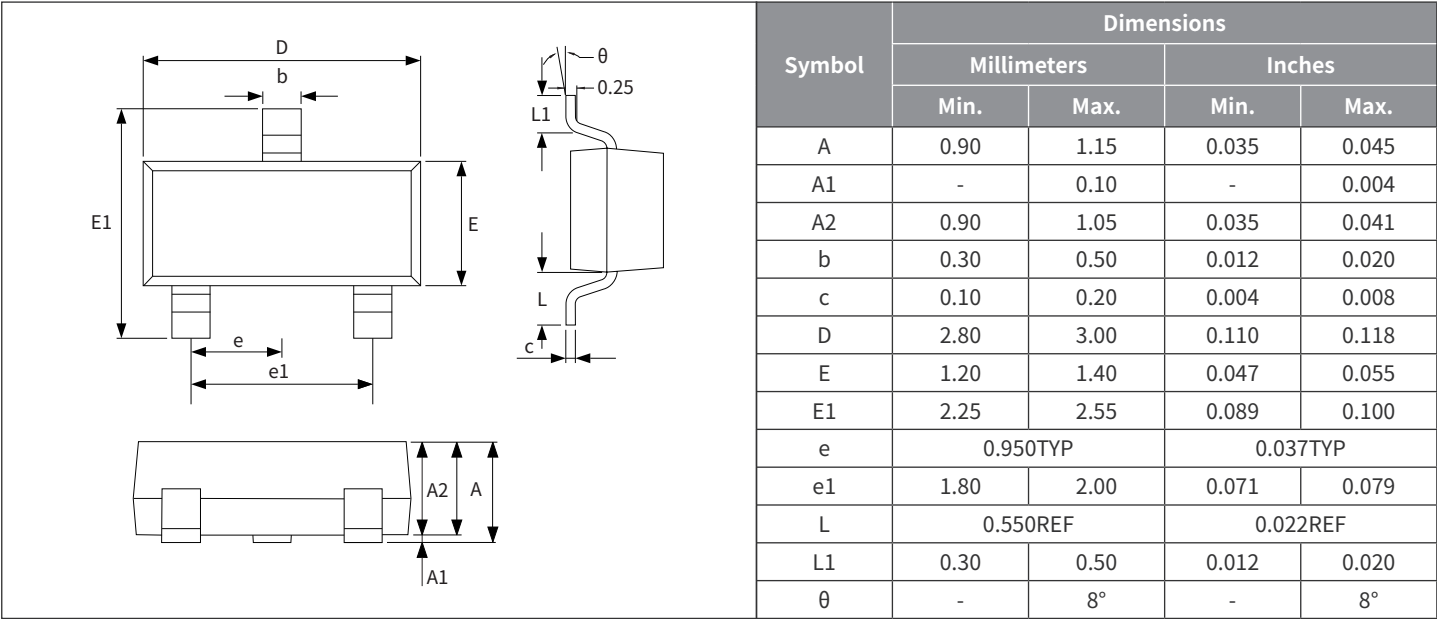


Fig.6 $C_{ob}/C_{ib}-V_{CB} V_{EB}$

● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

