

Features

Low $V_{CE(sat)}$, high current.

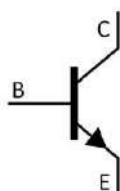
Descriptions

Silicon NPN transistor in a SOT-23 Plastic Package.

Applications

General purpose switching and muting, LCD back-lighting, supply line switching circuits.

Equivalent Circuit



Pinning



PIN 1 : Base PIN 2 : Emitter PIN 3 : Collector

h_{FE} Classifications & Marking

h_{FE} Range	>300
Marking	HZC

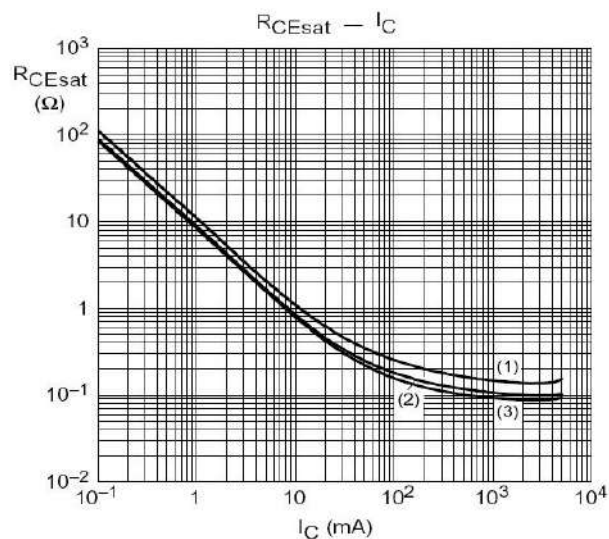
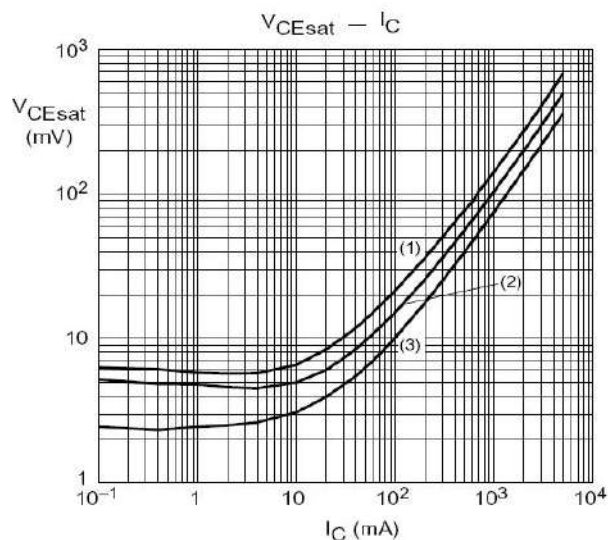
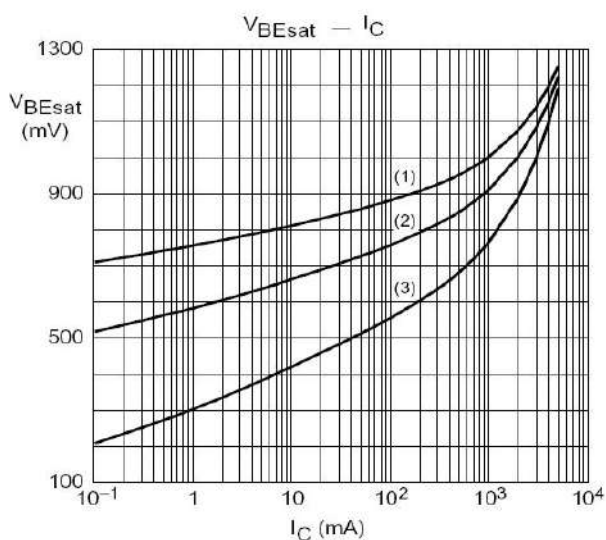
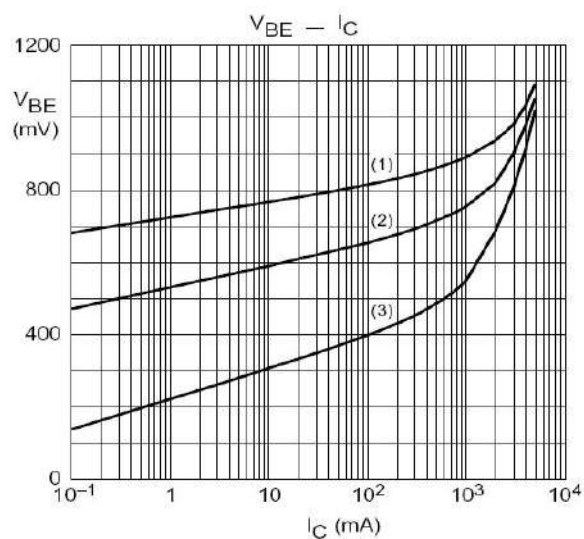
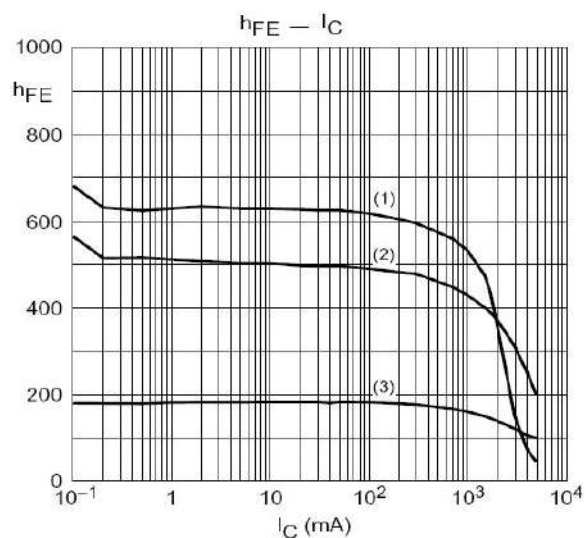
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current	I_C	2	A
Peak Collector Current	I_{CM}	5	A
Base Current	I_B	0.5	A
Total Power Dissipation	$P_{tot(1)}$	300	mW
	$P_{tot(2)}$	1.2	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65~150	°C

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=50V \quad I_E=0$			100	nA
		$V_{CB}=50V \quad I_E=0 \quad T_j=150^\circ C$			50	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V \quad I_C=0$			100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V \quad I_C=100mA$	300			
	$h_{FE(2)}$	$V_{CE}=2.0V \quad I_C=500mA$	300			
	$h_{FE(3)*}$	$V_{CE}=2.0V \quad I_C=1.0A$	300			
	$h_{FE(4)*}$	$V_{CE}=2.0V \quad I_C=2.0A$	200			
	$h_{FE(5)*}$	$V_{CE}=2.0V \quad I_C=3.0A$	100			
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=500mA \quad I_B=50mA$			80	mV
	$V_{CE(sat)(2)*}$	$I_C=2.0A \quad I_B=100mA$			280	mV
Equivalent On-Resistance	$R_{CE(sat)*}$	$I_C=2.0A \quad I_B=200mA$		100	130	mΩ
Base-Emitter Saturation Voltage	$V_{BE(sat)*}$	$I_C=2.0A \quad I_B=100mA$			1.1	V
		$I_C=3.0A \quad I_B=300mA$			1.2	V
Base-Emitter Voltage	$V_{BE(ON)*}$	$V_{CE}=2.0V \quad I_C=1.0A$			1.2	V
Transition Frequency	f_T	$V_{CE}=5.0V \quad I_C=100mA \quad f=100MHz$	100			MHz
Collector Capacitance	C_C	$V_{CB}=10V \quad I_E=0 \quad f=1.0MHz$			25	pF

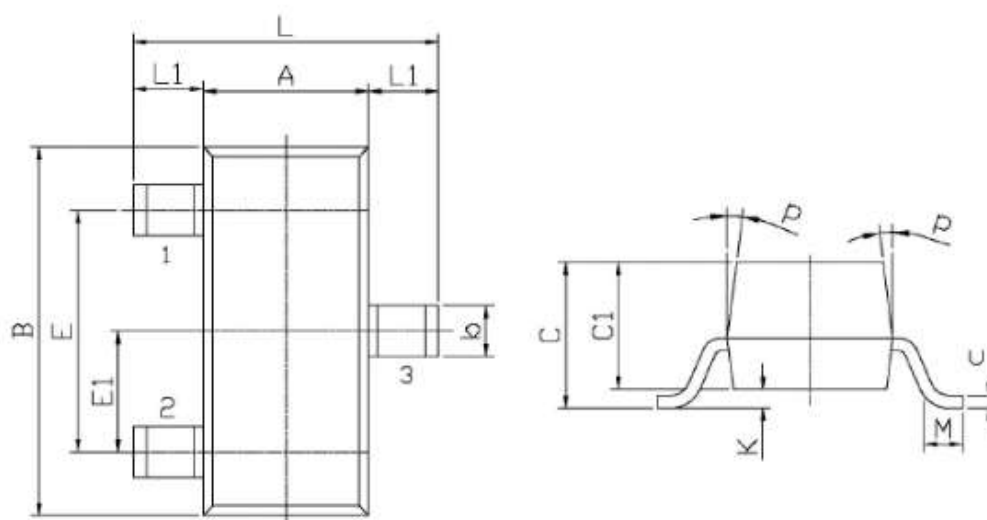
Electrical Characteristic Curve



Package Dimensions

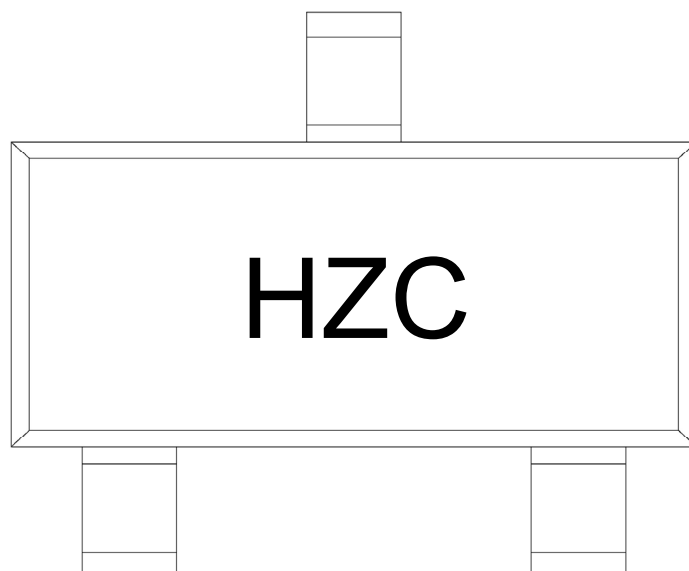
SOT-23

mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

Marking Instructions

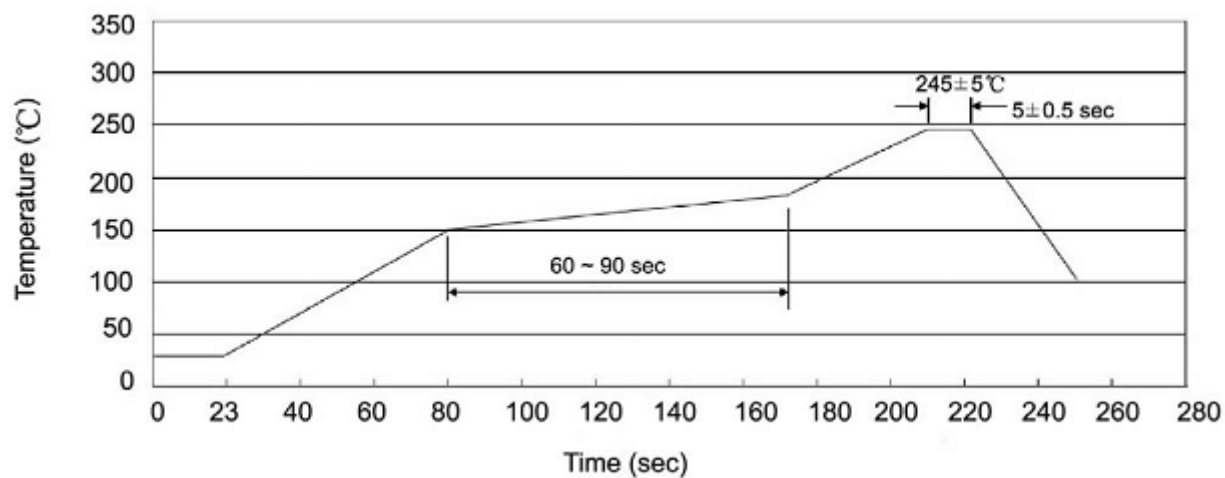


Note:

H : Company Code

ZC : Product Type Code

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

Resistance to Soldering Heat Test Conditions

Temp.:260±5°C Time:10±1 sec

Packaging SPEC.

REEL

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205