/ Descriptions

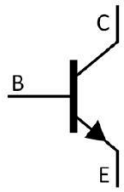
Silicon NPN transistor in a SOT-23 Plastic Package.

/ Features

High frequency.

/ Applications

UHF frequency converter, local oscillator,wide band amplifier.





PIN1 Base PIN 2 Emitter PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Range	20 200
Marking	HGC

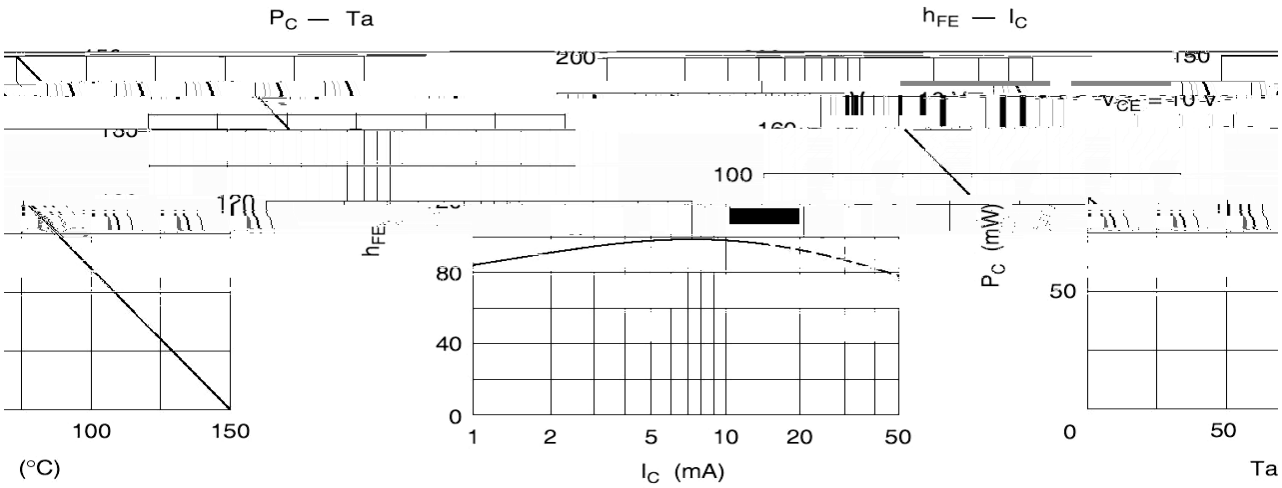
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	20	V
Collector to Emitter Voltage	V_{CEO}	11	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

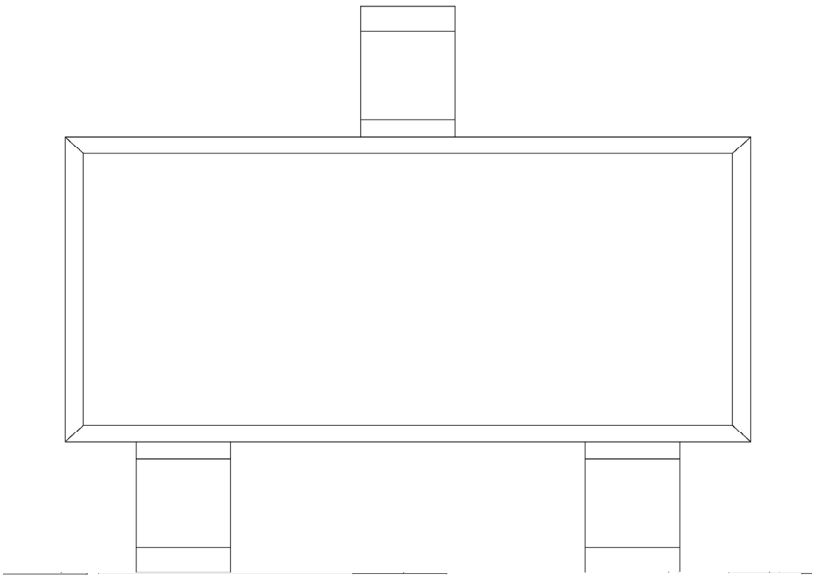
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- Base Breakdown Voltage	V_{CBO}	I_C=10 A I_E=0	20			V
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=1.0mA R_{BE}=	11			V
Emitter-Base Breakdown Voltage	V_{EBO}	I_E=10 A I_C=0	3.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=10V I_E=0			0.5	A
Emitter Cut-Off Current	I_{EBO}	V_{CB}=2.0V I_E=0			0.5	A
DC Current Gain	h_{FE}	V_{CE}=10V I_c=5.0mA	20	90	200	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=10mA I_B=5.0mA			0.7	V
Transition Frequency	f_T	V_{CE}=10V I_C=10mA	1400	3500		MHz
Collector output capacitance	C_{ob}	V_{CE}=10V I_E=0 f=1.0MHz		0.9	1.5	pF
Conversion Gain	CG	V_{CC}=6.0V I_C=2.0mA f=900MHz f_{OSC}=930MHz(0dBm) f_{out}=30MHz		15		dB
Noise Figure	NF	V_{CC}=6.0V I_C=2.0mA f=900MHz f_{OSC}=930MHz(0dBm) f_{out}=30MHz		9.0		dB
The Output Clock Supply Voltage	V_{OSC}	V_{CC}=6.0V I_C=5.0mA f=930MHz		140		mV

/ Electrical Characteristic Curve





/ Marking Instructions

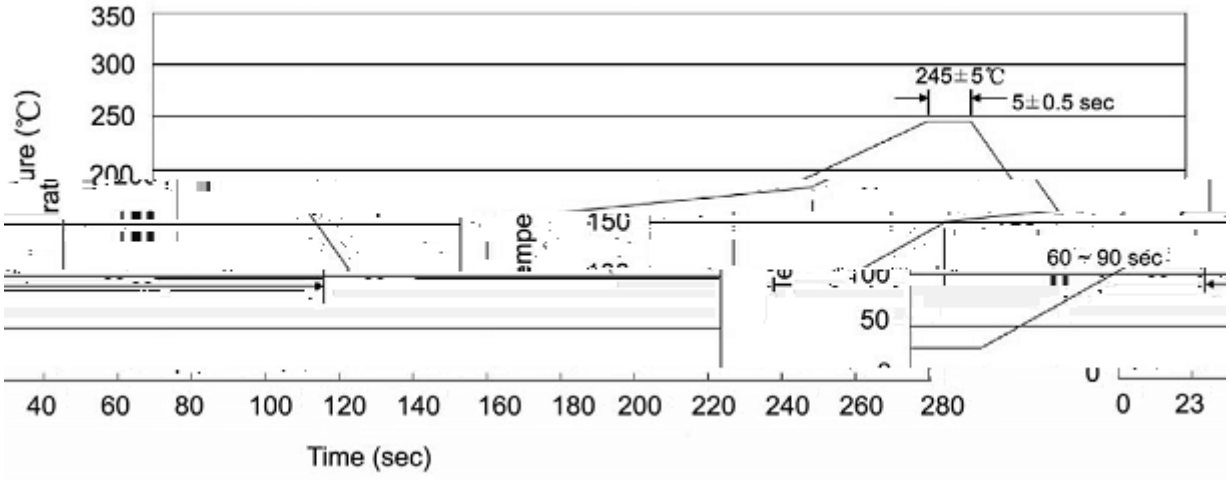


Note:

Company Code

Product Type Code

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

1 25 150 60 90sec;

1.Preheating:25~150 , Time:60~90sec.

2 245 5 5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.

3 2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Test Conditions

260 5 10 1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Units Dimension (unit mm^3)