

Description

Silicon NPN transistor in a SOT-23 Plastic Package

Features

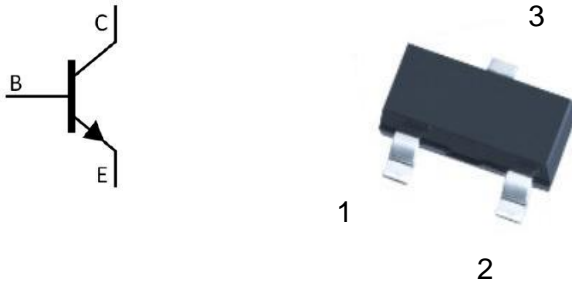
- Low noise and high power gain

Applications

- Low noise amplifier at VHF
- UHF and CATV band applications

Symbol	Parameter	Max	Unit
V_{CE0}	collector-emitter voltage	12	V
I_c	collector current (DC)	100	mA

Equivalent Circuit & Pinning



PIN1: Base

PIN 2: Emitter

PIN 3: Collector

hFE Classifications & Marking

h _{FE} Classifications Symbol	Q	R	S	T
h _{FE} Range	50~100	80~160	125~250	200~330
Marking	HR23	HR24	HR25	HR26

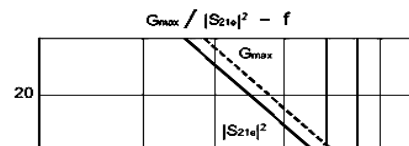
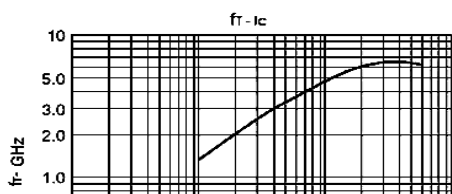
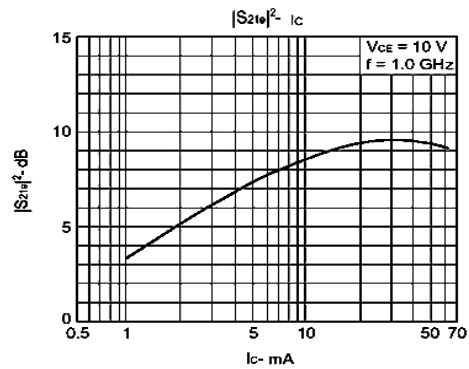
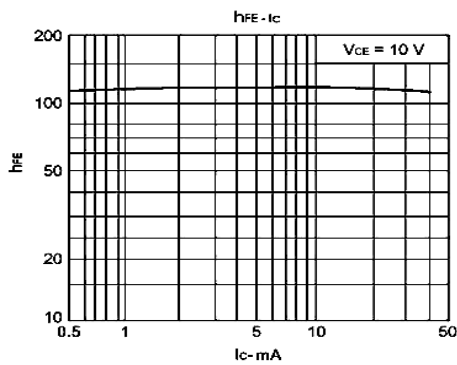
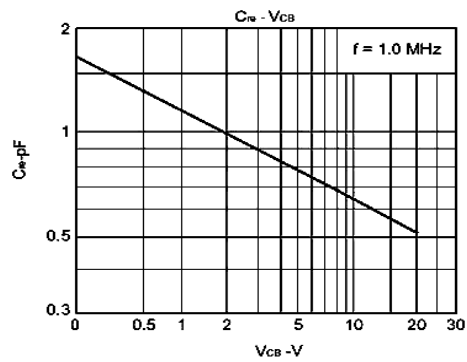
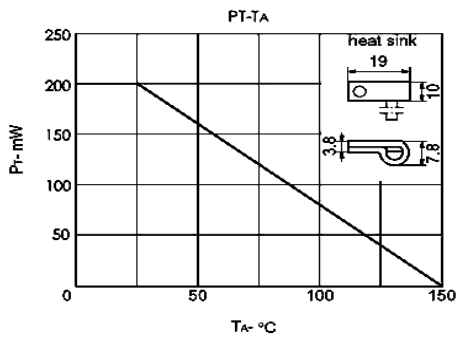
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	20	V
Collector to Emitter Voltage	V_{CEO}	12	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	100	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

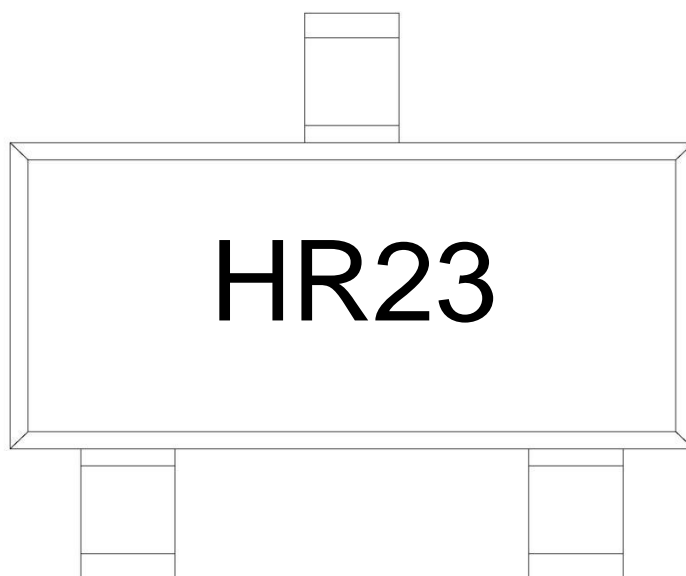
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=10V$ $I_E=0$			1.0	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=1.0V$ $I_C=0$			1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=20mA$	50	120	330	
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=20mA$		7		GHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		0.55	1.0	pF
Noise Figure	NF	$V_{CE}=10V$ $I_C=7.0mA$ $f=1.0GHz$		1.0	2.0	dB
Insertion Power Gain	$ S_{21e} ^2$	$V_{CE}=10V$ $I_C=20mA$ $f=1.0GHz$		11.5		dB

Electrical Characteristic Curve



Marking Instructions



Note:

H: Company Code
 R23: Product Type Code

Packaging SPEC.

REEL INFORMATION

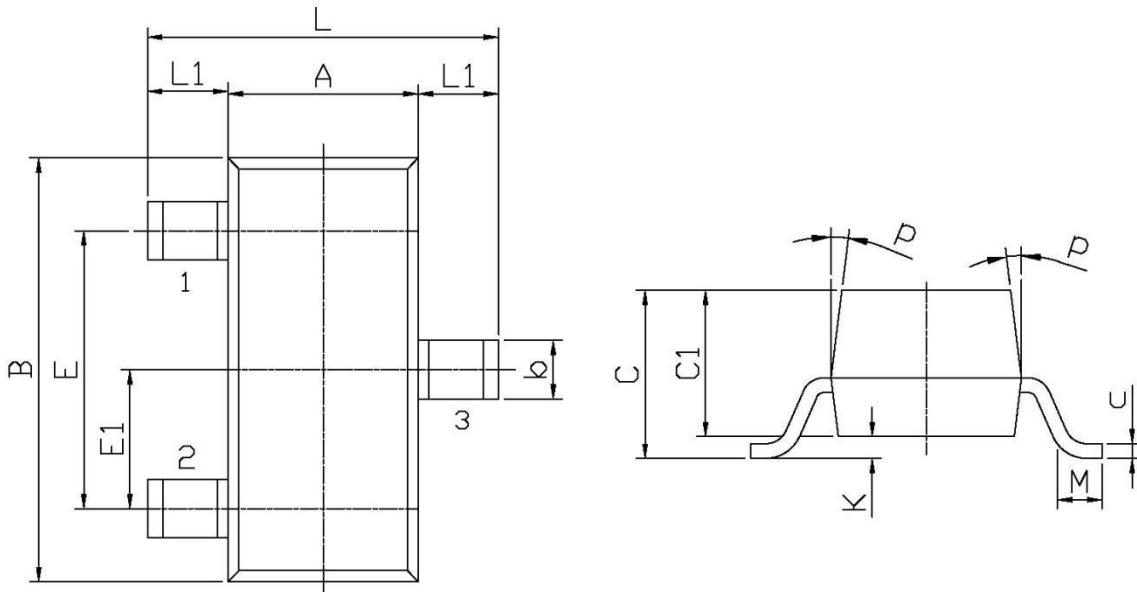
Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

Package Outline Dimensions

h _{FE} Classifications Symbol	Q	R	S	T
h _{FE} Range	50~100	80~160	125~250	200~330
Marking	HR23	HR24	HR25	HR26

SOT-23

单位: 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			