

isc Silicon NPN RF Transistor
2SC4227
DESCRIPTION

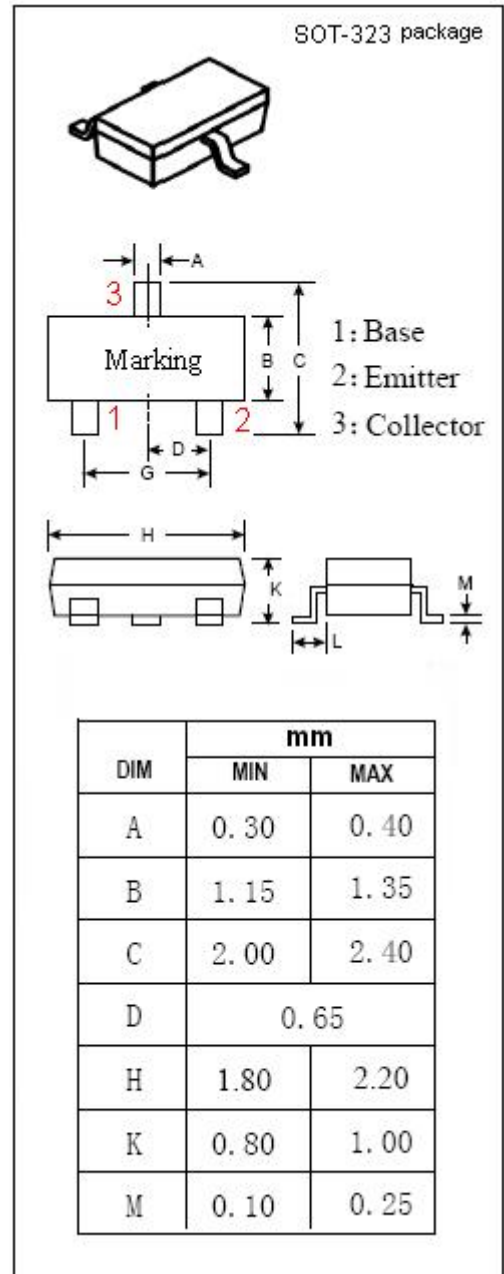
- Low Noise
 $NF = 1.4 \text{ dB TYP.}, @V_{CE} = 3 \text{ V}, I_C = 7 \text{ mA}, f = 1.0 \text{ GHz}$
- High Gain
 $|S_{21e}|^2 = 12 \text{ dB TYP.}, @V_{CE} = 3 \text{ V}, I_C = 7 \text{ mA}, f = 1.0 \text{ GHz}$
- 100% tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for VHF, UHF low noise amplifier.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	10	V
V_{EBO}	Emitter-Base Voltage	1.5	V
I_C	Collector Current-Continuous	65	mA
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	0.15	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I _{CBO}	Collector Cutoff Current	V _{CB} = 10V; I _E = 0			0.8	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 1V; I _C = 0			0.8	μ A
h _{FE}	DC Current Gain	I _C = 7mA; V _{CE} = 3V	40		240	
f _T	Current-Gain—Bandwidth Product	I _C = 7mA; V _{CE} = 3V	4.5	7.0		GHz
C _{re}	Feed-Back Capacitance	I _E = 0; V _{CB} = 3V; f= 1.0MHz		0.45	0.9	pF
S _{21e} ²	Insertion Power Gain	I _C = 7mA; V _{CE} = 3V; f= 1.0GHz	10	12		dB
NF	Noise Figure	I _C = 7mA; V _{CE} = 3V; f= 1.0GHz		1.4	2.7	dB

◆ h_{FE} Classification

Class	R33	R34	R35
Marking	R33	R34	R35
h _{FE}	40-90	70-150	110-240

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