isc Silicon NPN RF Transistor 2SC4536

DESCRIPTION

- Low Noise
  NF = 1.5 dB TYP. @V_{CE} = 10 V, I_C = 10 mA, f = 1 GHz
- Low Distortion
  IM_2 = 57.5 dB TYP. @V_{CE} = 10 V, I_C = 50 mA
  IM_3 = 82 dB TYP. @V_{CE} = 10 V, I_C = 50 mA
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

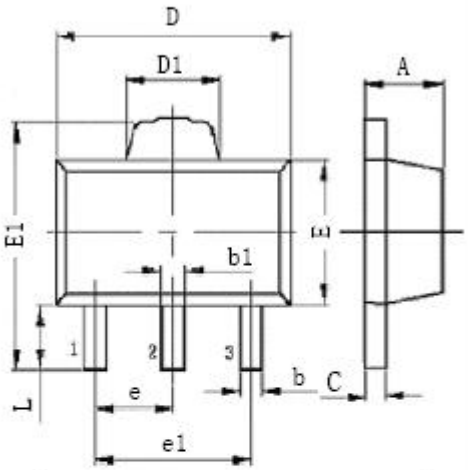
- Designed for use in middle power , low distortion low noise figure RF amplifier.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	3.0	V
I_C	Collector Current-Continuous	0.25	A
P_C	Collector Power Dissipation @T_C=25℃	2	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

SOT-89 package

1: Base
2: Emitter
3: Collector



DIM	mm MIN	MAX
A	1.40	1.60
b	0.32	0.52
b1	0.36	0.56
C	0.35	0.44
D	4.40	4.46
D1	1.40	1.80
E	2.30	2.60
E1	3.94	4.25
e	1.50typ	
e1	2.90	3.10
L	0.90	1.10

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I_{CBO}	Collector Cutoff Current	V_{CB}= 20V; I_E= 0			5.0	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 2V; I_C= 0			5.0	μA
h_{FE}	DC Current Gain	I_C= 50mA ; V_{CE}= 10V	40		200	
$\|S_{21e}\|^2$	Insertion Power Gain	I_C= 50mA ; V_{CE}= 10V;f= 1.0GHz	5.5	7.3		dB
NF	Noise Figure	I_C= 50mA ; V_{CE}= 10V;f= 500MHz		1.5		dB
NF	Noise Figure	I_C= 50mA ; V_{CE}= 10V;f= 1.0GHz		2.0		dB
IM_2	2nd Intermodulation Distortion	V_{CE} = 10 V, I_C = 50 mA, R_S = R_L = 75Ω Pin = 105 dBμV/75 Ω, f1 = 190 MHz f_2 = 90 MHz, f = $f_1 - f_2$		59		dB
IM_3	3rd Intermodulation Distortion	V_{CE} = 10 V, I_C = 50 mA, R_S = R_L = 75Ω Pin = 105 dBμV/75 Ω, f1 = 190 MHz f_2 = 200 MHz, f = 2 × $f_1 - f_2$		82		dB

◆ **h_{FE} Classification**

Class	QQ	QR	QS
Marking	QQ	QR	QS
h_{FE}	40-80	60-120	100-200

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