

isc Silicon NPN RF Transistor

2SC4536

DESCRIPTION

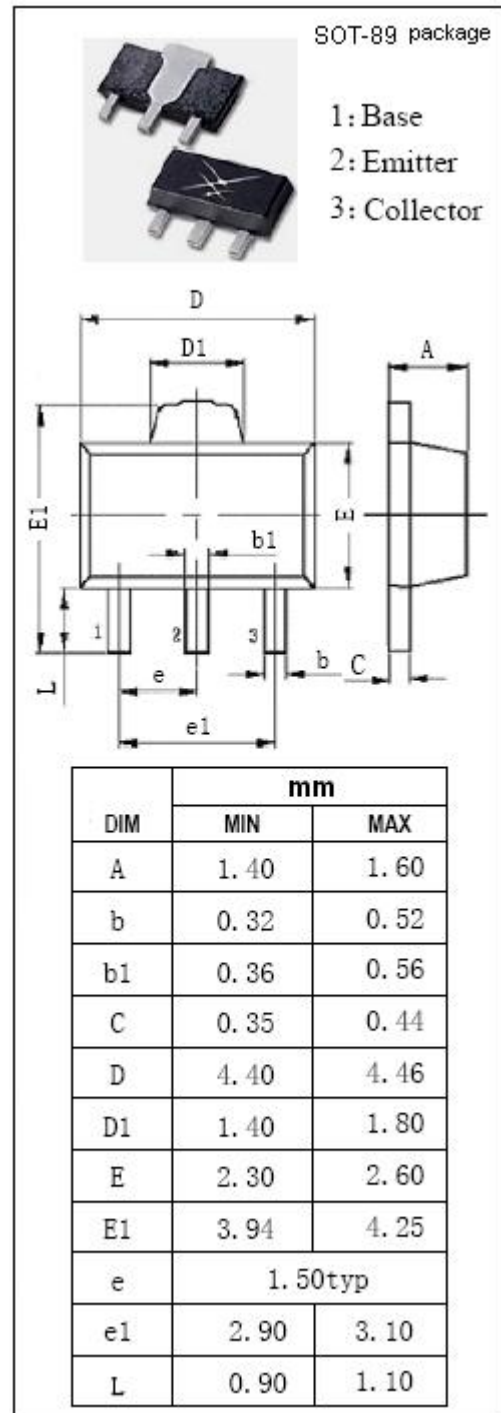
- Low Noise
NF = 1.5 dB TYP. @ $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$, $f = 1\text{ GHz}$
- Low Distortion
IM₂ = 57.5 dB TYP. @ $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$
IM₃ = 82 dB TYP. @ $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

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

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

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 @ $T_C=25^\circ\text{C}$	2	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} = 20V; I _E = 0			5.0	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 2V; I _C = 0			5.0	μ A
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 = 75 Ω Pin = 105 dB μ V/75 Ω, f ₁ = 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 = 75 Ω Pin = 105 dB μ V/75 Ω, f ₁ = 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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