isc Silicon NPN RF Transistor 2SC4703

DESCRIPTION

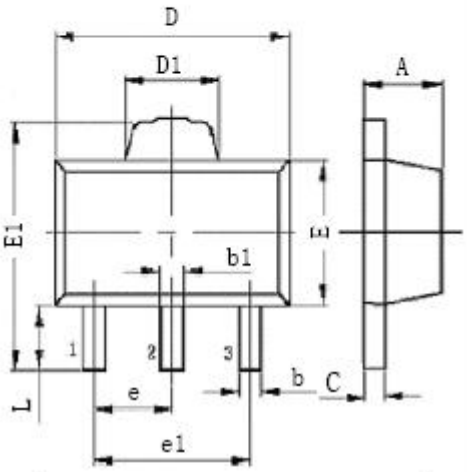
- Low Distortion at Low Supply Voltage.
  IM_2- 55 dB TYP., IM_3- 76 dB TYP.
  @V_{CE} = 5 V, I_C = 50 mA, V_O = 105dBμ/75Ω
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low distortion ,low noise RF amplifier operating with low supply voltage (V_{CE} = 5V).

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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	25	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	2.5	V
I_C	Collector Current-Continuous	0.15	A
P_C	Collector Power Dissipation @T_C=25℃	1.8	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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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			1.5	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 2V; I_C= 0			1.5	μA
h_{FE}	DC Current Gain	I_C= 5mA ; V_{CE}= 5V	50		250	
f_T	Current-Gain—Bandwidth Product	I_C= 5mA ; V_{CE}= 5V		6.0		GHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 5V;f= 1.0MHz		1.5	2.5	pF
$\|S_{21e}\|^2$	Insertion Power Gain	I_C= 50mA ; V_{CE}= 5V;f= 1.0GHz	6.5	8.3		dB
$\|S_{21e}\|^2$	Insertion Power Gain	I_C= 20mA ; V_{CE}= 10V;f= 1.0GHz		8.5		dB
NF	Noise Figure	I_C= 50mA ; V_{CE}= 5V;f= 1.0GHz		2.3	3.5	dB
IM_2	2nd Intermodulation Distortion	V_{CE} = 5V, I_C = 50mA, V_O = 105 dBμV/75 Ω, f =190 MHz － 90 MHz		-55		dB
		V_{CE} = 10V, I_C = 50mA, V_O = 105 dBμV/75 Ω, f =190 MHz － 90 MHz		-63		
IM_3	3nd Intermodulation Distortion	V_{CE} = 5V, I_C = 50mA, V_O = 105 dBμV/75 Ω, f =2×190 MHz － 200 MHz		-76		dB
		V_{CE} = 10V, I_C = 50mA, V_O = 105 dBμV/75 Ω, f =2×190 MHz － 200 MHz		-81		

◆ **h_{FE} Classification**

Class	SH	SF	SE
Marking	SH	SF	SE
h_{FE}	50-100	80-160	125-250