isc Silicon NPN RF Transistor ISC1864

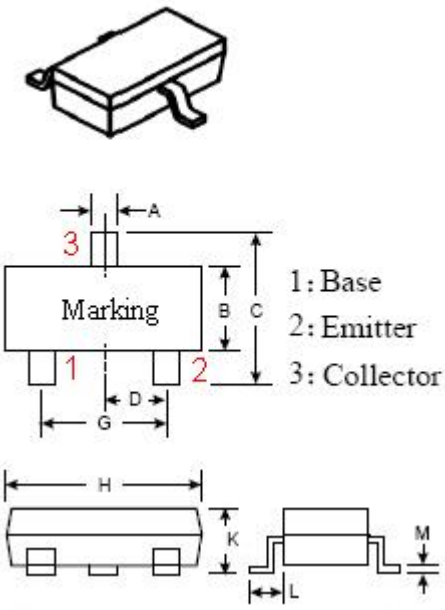
DESCRIPTION

- High f_T
  8.0GHz TYP. @V_{CE} = 3 V, I_C = 5 mA, f = 2 GHz
- Low C_{re}
  0.3pF TYP., @V_{CB} = 3 V, I_E = 0, f = 1 MHz
- High $|S_{21e}|^2$
  7.5 dB TYP. @V_{CE} = 3 V, I_C = 5 mA, f = 2 GHz
- 100% tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for VHF, UHF low noise amplifier.

SOT-323 package



DIM	mm	
	MIN	MAX
A	0.30	0.40
B	1.15	1.35
C	2.00	2.40
D	0.65	
H	1.80	2.20
K	0.80	1.00
M	0.10	0.25

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	35	mA
P_C	Collector Power Dissipation @T_C=25℃	0.15	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

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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}= 10V; I_E= 0			1.0	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 1V; I_C= 0			1.0	μA
h_{FE}	DC Current Gain	I_C= 5mA ; V_{CE}= 3V	50		250	
f_T	Current-Gain—Bandwidth Product	I_C= 5mA ; V_{CE}= 3V ; f= 2GHz	5.5	8.0		GHz
C_{re}	Feed-Back Capacitance	I_E= 0 ; V_{CB}= 3V; f= 1MHz		0.3	0.7	pF
$\|S_{21e}\|^2$	Insertion Power Gain	I_C= 5mA ; V_{CE}= 3V; f= 2GHz	5.5	7.5		dB
NF	Noise Figure	I_C= 5mA ; V_{CE}= 3V; f= 2GHz		1.9	3.2	dB

◆ **h_{FE} Classification**

Class	R43	R44	R45
Marking	R43	R44	R45
h_{FE}	50-100	80-160	125-250

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