

**DESCRIPTION**

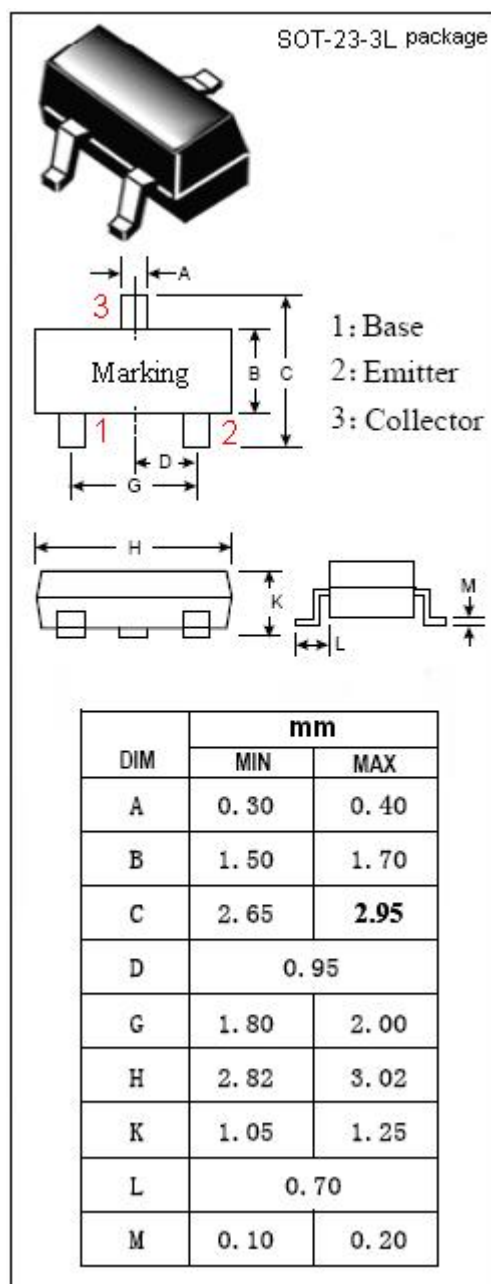
- Low Base Time Constant;  
 $r_{bb'} \cdot C_C = 4 \text{ ps TYP.}$
- High Gain Bandwidth Product  
 $f_T = 2 \text{ GHz TYP. @ } I_E = -5\text{mA}, V_{CE} = 10\text{V}$
- Low Feedback Capacitance;  
 $C_{re} = 0.48 \text{ pF TYP.}$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for use as UHF oscillator and mixer in a tuner of a TV receiver.

**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	V
$I_C$	Collector Current-Continuous	50	mA
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	0.15	W
$T_J$	Junction Temperature	125	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~125	$^\circ\text{C}$



## isc Silicon NPN RF Transistor

2SC3545

## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10mA ; I <sub>B</sub> = 1mA			0.5	V
I <sub>CB0</sub>	Collector Cutoff Current	V <sub>CB</sub> = 12V; I <sub>E</sub> = 0			0.1	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 5mA ; V <sub>CE</sub> = 10V	50		250	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>E</sub> = -5mA ; V <sub>CE</sub> = 10V	1.3	2.0		GHz
C <sub>re</sub>	Feedback Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V;f= 1.0MHz		0.48	1.0	pF
r <sub>bb'</sub> · C <sub>C</sub>	Base Time Constant	V <sub>CE</sub> = 10V,I <sub>E</sub> = -5mA,f = 31.9 MHz		4	10	ps

◆ h<sub>FE</sub> Classifications

Class	M/P	L/Q	K/R
Marking	T42	T43	T44
h <sub>FE</sub>	50-100	70-140	120-250

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