

**isc Silicon NPN RF Transistor**
**2SC3841**
**DESCRIPTION**

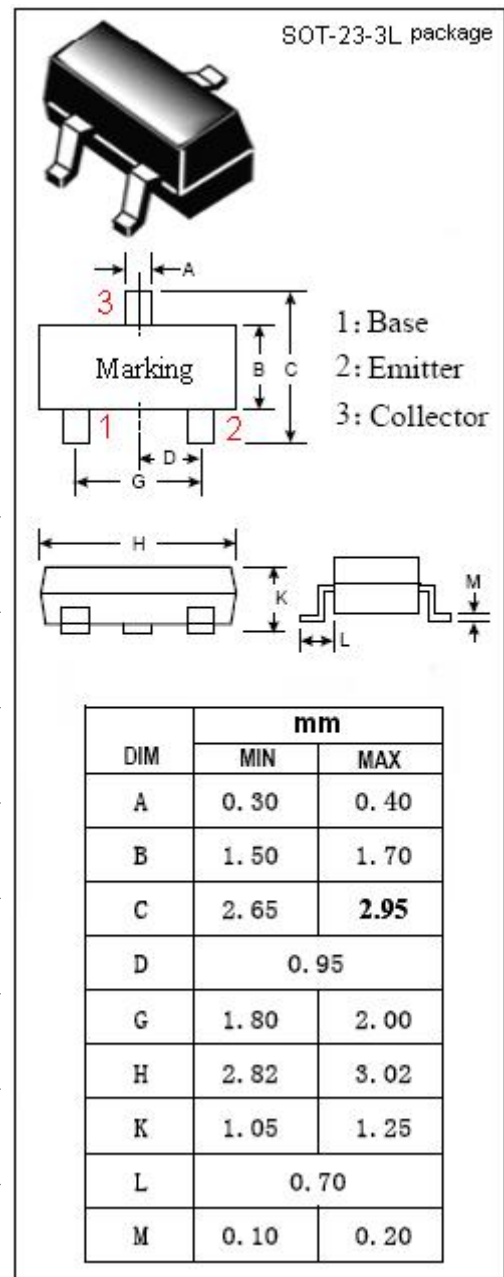
- High Current-Gain Bandwidth Product:  
 $f_T = 4 \text{ GHz TYP.}$
- Low Output Capacitance-  
 $C_{OB} = 1.5 \text{ pF TYP.}$
- Low Base Time Constant:  
 $r_{bb'} \cdot C_C = 4.0 \text{ ps TYP.}$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for use as UHF oscillators and a UHF 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	25	V
$V_{CEO}$	Collector-Emitter Voltage	12	V
$V_{EBO}$	Emitter-Base Voltage	3	V
$I_C$	Collector Current-Continuous	30	mA
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	0.2	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



## isc Silicon NPN RF Transistor

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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 10V; I <sub>E</sub> = 0			0.1	μ A
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10mA ; I <sub>B</sub> = 1mA			0.5	V
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 5mA ; V <sub>CE</sub> = 10V	40		200	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>E</sub> = -5mA; V <sub>CE</sub> = 10V	2.5	4.0		GHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V; f= 1MHz		0.85	1.5	pF
r <sub>bb'</sub> · C <sub>C</sub>	Base Time Constant	I <sub>E</sub> = -5mA ; V <sub>CE</sub> = 10V; f= 31.9MHz		4	10	ps

◆ h<sub>FE</sub> Classification

Class	T62/P	T63/Q	T64/R
Marking	T62	T63	T64
h <sub>FE</sub>	40-80	60-120	100-200

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