



## 2SC5508

Preliminary

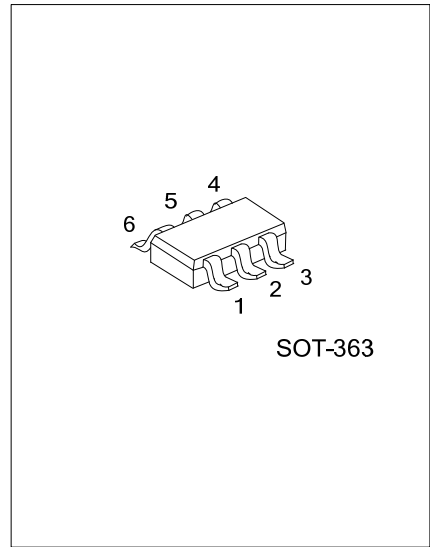
**NPN EPITAXIAL SILICON TRANSISTOR**

### NPN SILICON RF TRANSISTOR

#### DESCRIPTION

The UTC **2SC5508** is an NPN silicon RF transistor, it uses UTC's advanced technology to provide customers with low-noise, etc.

The UTC **2SC5508** is suitable for low-noise, high-gain amplification applications.



#### FEATURES

- \* Maximum available power gain: MAG=19dB TYP. @  $V_{CE}=2V$ ,  $I_C=20mA$ ,  $f=2GHz$
- \*  $f_T=25GHz$  technology adopted

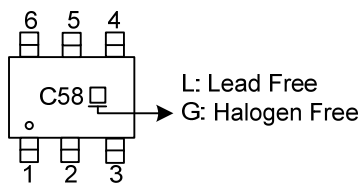
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
2SC5508L-x-AL6-R	2SC5508G-x-AL6-R	SOT-363	E1	B1	C2	E2	B2	C1	Tape Reel

Note: Pin Assignment: E: Emitter B: Base C: Collector

<p>2SC5508G-x-AL6-R</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Green Package</p>	<p>(1) R: Tape Reel (2) AL6: SOT-363 (2) x: reference to Classification of <math>h_{FE}</math> (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	15	V
Collector-Emitter Voltage	$V_{CEO}$	3.3	V
Emitter-Base Voltage	$V_{EBO}$	1.5	V
Collector Current	$I_C$	35	mA
Power Dissipation	$P_D$	115	mW
Junction Temperature	$T_J$	+150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-65 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL RESISTANCE

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient Resistance	$\theta_{JA}$	650	$^\circ\text{C/W}$
Junction to Case Resistance	$\theta_{JC}$	150	$^\circ\text{C/W}$

■ ELECTRICAL CHARACTERISTICS ( $T_A=+25^\circ\text{C}$ )

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>DC CHARACTERISTICS</b>						
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=5\text{V}, I_E=0$			200	nA
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=1\text{V}, I_C=0$			200	nA
DC Current Gain (Note 1)	$h_{FE}$	$V_{CE}=2\text{V}, I_C=5\text{mA}$	50	70	100	
<b>RF CHARACTERISTICS</b>						
Gain Bandwidth Product	$f_T$	$V_{CE}=3\text{V}, I_C=30\text{mA}, f=2\text{GHz}$		25		GHz
Reverse Transfer Capacitance (Note 2)	$C_{re}$	$V_{CB}=2\text{V}, I_E=0, f=1\text{MHz}$		0.18		pF

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.  
2. Collector to base capacitance when the emitter grounded.

■ CLASSIFICATION OF  $h_{FE}$

RANK	B
RANGE	50 ~ 100

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