



## 2SC5508

Preliminary

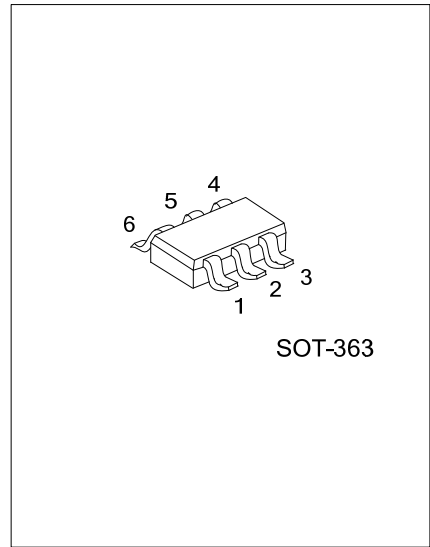
**NPN EPITAXIAL SILICON TRANSISTOR**

### 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

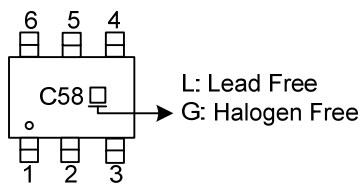
#### ORDERING INFORMATION

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>
---	--

#### 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	$^{\circ}\text{C}/\text{W}$
Junction to Case Resistance	$\theta_{JC}$	150	$^{\circ}\text{C}/\text{W}$

■ 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

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.