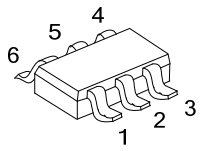
2SC5508 **Preliminary** ***NPN EPITAXIAL SILICON TRANSISTOR***

NPN SILICON RF TRANSISTOR



SOT-363

■ 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

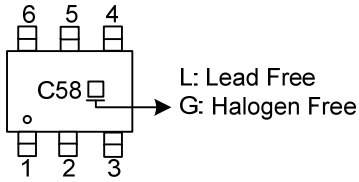
■ ORDERING INFORMATION

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

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

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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	°C
Storage Temperature	T_{STG}	-65 ~ +150	°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	θ_{JA}	650	°C/W
Junction to Case Resistance	θ_{JC}	150	°C/W

■ ELECTRICAL CHARACTERISTICS (T_A=+25°C)

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