



## BFR93A

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

### ISC SILICON NPN RF TRANSISTOR

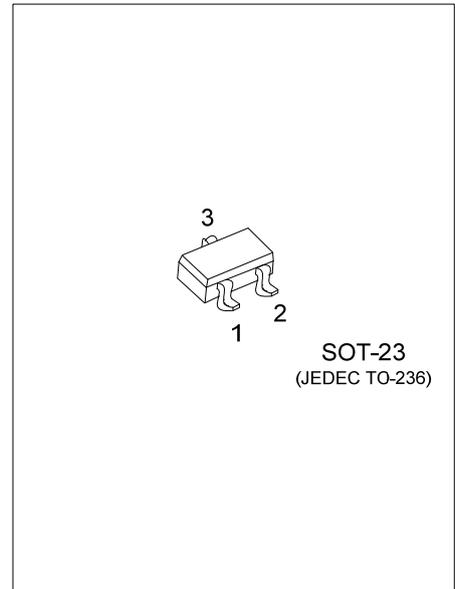
#### DESCRIPTION

The UTC **BFR93A** is an isc silicon NPN RF transistor, it uses UTC's advanced technology to provide customers with high power gain and low noise figure, etc.

The UTC **BFR93A** is designed for use in RF wideband amplifiers and oscillators.

#### FEATURES

- \* High Power Gain
- \* Low Noise Figure
- \* High Current Gain Bandwidth Product



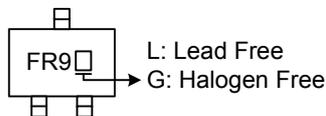
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BFR93AL-AE3-R	BFR93AG-AE3-R	SOT-23	B	E	C	Tape Reel

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

<p>BFR93AG-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23</p> <p>(3) 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 to Base Voltage	$V_{CBO}$	15	V
Collector to Emitter Voltage	$V_{CEO}$	12	V
Emitter to Base Voltage	$V_{EBO}$	2	V
Collector Current Continuous	$I_C$	35	mA
Collector Power Dissipation @ $T_C=25^\circ\text{C}$	$P_C$	0.3	W
Junction Temperature	$T_J$	+175	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-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.

■ ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$  unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=5\text{V}, I_E=0$			0.05	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$I_C=30\text{mA}, V_{CE}=5\text{V}$	40			
Current Gain Bandwidth Product	$f_T$	$I_C=30\text{mA}, V_{CE}=5\text{V}, f=500\text{MHz}$	4.5	6		GHz
Feedback Frequency	$C_{re}$	$I_E=0, V_{CE}=5\text{V}, f=1\text{MHz}$		1.6		pF

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