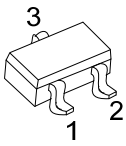
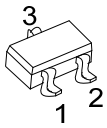
BFR93A

NPN EPITAXIAL SILICON TRANSISTOR

ISC SILICON NPN RF TRANSISTOR



SOT-23
(JEDEC TO-236)



SOT-523

■ 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
BFR93AL-AN3-R	BFR93AG-AN3-R	SOT-523	B	E	C	Tape Reel

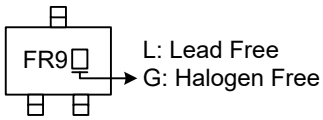
Note: Pin Assignment: B: Base E: Emitter C: Collector

BFR93AG-AE3-R

(1)Packing Type
(2)Package Type
(3)Green Package

(1) R: Tape Reel
(2) AE3: SOT-23, AN3: SOT-523
(3) 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 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°C)	SOT-23	P_C	0.3	W
	SOT-523		0.2	W
Junction Temperature		T_J	+175	°C
Storage Temperature Range		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.

■ ELECTRICAL CHARACTERISTICS (T_C=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cutoff Current	I_{CBO}	V_{CB}=5V, I_E=0			0.05	μA
DC Current Gain	h_{FE}	I_C=30mA, V_{CE}=5V	40			
Current Gain Bandwidth Product	f_T	I_C=30mA, V_{CE}=5V, f=500MHz	4.5	6		GHz
Feedback Frequency	C_{re}	I_E=0, V_{CE}=5V, f=1MHz		1.6		pF
Noise Figure	NF	I_C =5mA, V_{CE} =8V, f =1.0GHz			2.0	dB

■ TYPICAL CHARACTERISTICS