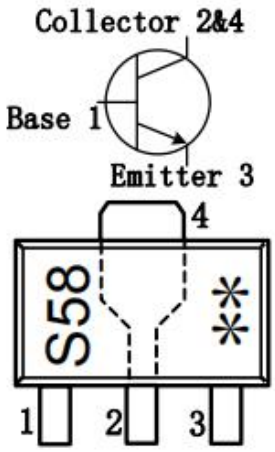
isc Silicon NPN RF Transistor BFU580Q

DESCRIPTION

- Low Noise Figure
  f_T = 8.5GHz TYP. @I_C= 30mA ; V_{CE}= 8V; f= 900MHz
- High Gain
  $|S_{21}|^2$=13dB TYP. @I_C= 30mA ; V_{CE}= 8V; f= 900MHz
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Designed for use in low noise ,high-gain amplifiers and linear broadband amplifiers.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	25	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	2.5	V
I_C	Collector Current-Continuous	60	mA
P_C	Collector Power Dissipation @T_C=25℃	1	W
T_J	Junction Temperature	-40~150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 1mA ; I_B= 0	15			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 6V; I_E= 0			0.05	μA
h_{FE}	DC Current Gain	I_C=30mA ; V_{CE}= 8V	60		250	
f_T	Current-Gain—Bandwidth Product	I_C= 30mA ; V_{CE}= 8V; f= 900MHz	8	8.5		GHz
Cre	Feedback Capacitance	I_E= 0 ; V_{CB}= 8V; f= 1MHz		1.2		pF
Ce	Emitter capacitance	IC=iC=0,V_{EB}=0.5V,f=1MHz		3.0		pF
Cc	Collector capacitance	IE=ie=0,V_{CB}=8V,f=1MHz		1.8		pF
$\|S_{21}\|^2$	Insertion Power Gain	I_C= 30mA ; V_{CE}= 8V; f= 433MHz	17	17.5		dB
		I_C= 30mA ; V_{CE}= 8V; f= 900MHz	12.5	13		
		I_C= 30mA ; V_{CE}= 8V; f= 1800MHz	7.5	8		
G_{UM}	maximum power gain	I_C= 30mA ; V_{CE}= 8V; f= 433MHz	18.5	19		dB
		I_C= 30mA ; V_{CE}= 8V; f= 900MHz	13.5	14		
		I_C= 30mA ; V_{CE}= 8V; f= 1800MHz	8	8.5		

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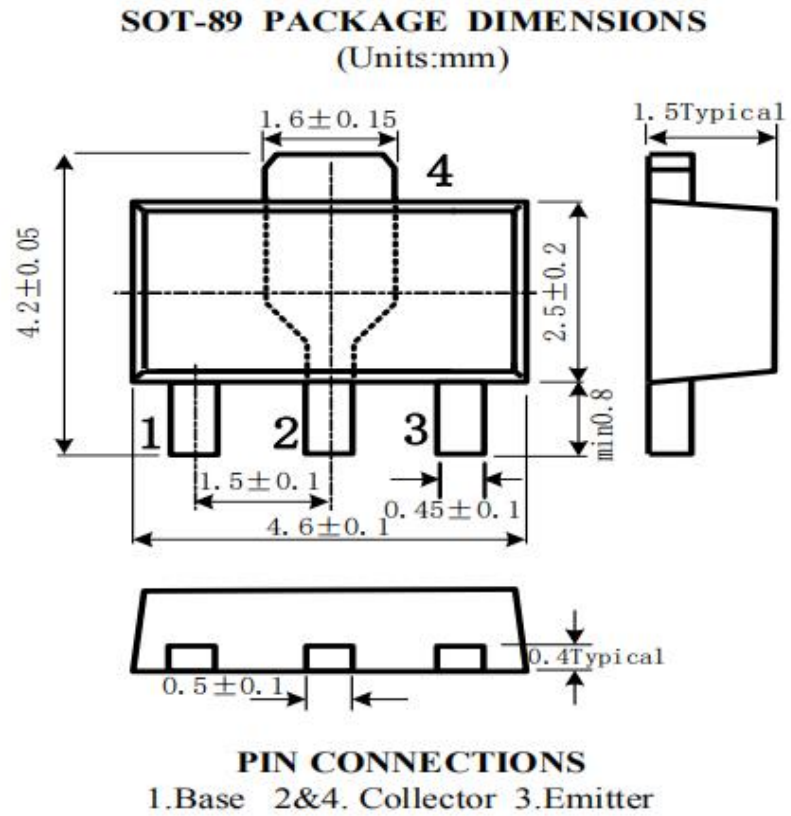
PACKAGE SIZE DRAWING



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