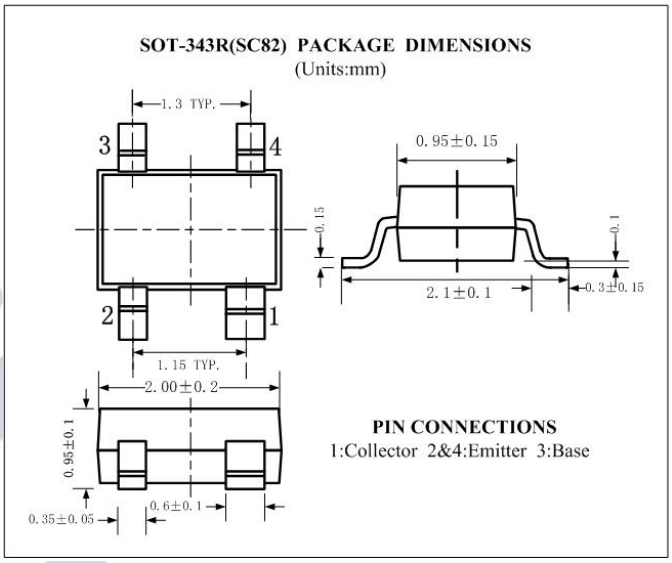
isc Silicon NPN RF Transistor — BFP196W

DESCRIPTION

- Low Noise Figure
  NF = 1.3 dB TYP.
  @V_{CE} = 6 V, I_C = 5 mA, f = 1GHz
- High Gain
  $|S_{21}|^2$ = 18dB TYP.
  @V_{CE}= 6 V,I_C = 30 mA,f = 1GHz
- 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	20	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	2	V
I_C	Collector Current-Continuous	100	mA
P_C	Collector Power Dissipation @T_C=25℃	700	mW
T_J	Junction Temperature	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	12			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 10V; I_E= 0			100	nA
h_{FE}	DC Current Gain	I_C= 30mA ; V_{CE}= 6V	50	100	250	
f_T	Current-Gain—Bandwidth Product	I_C= 30mA ; V_{CE}= 8V	8.5	9		GHz
Cre	Feedback Capacitance	I_E= 0 ; V_{CB}= 6V; f= 1MHz		0.4		pF
Ce	Emitter capacitance	IC=iC=0; V_{EB}=0.5V; f=1MHz		1.5		pF
Cc	Collector capacitance	IE=ie=0; V_{CB}=8V; f=1MHz		0.6		pF
$\|S_{21}\|^2$	Insertion Power Gain	I_C= 30mA ; V_{CE}= 6V; f= 1GHz	17	18		dB
NF	Noise Figure	I_C= 5mA ; V_{CE}= 6V; f= 1GHz		1.3		dB
		I_C= 5mA ; V_{CE}= 6V; f= 2GHz		2.0		