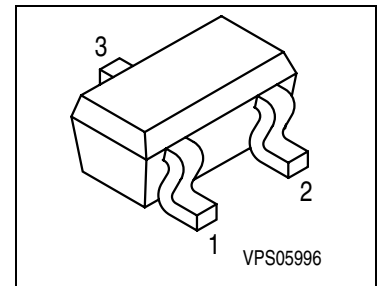


NPN Silicon RF Transistor

Target Data

- Low Voltage/ Low Current Operation
- High Transistion Frequency of 16GHz
- High Insertion Gain
- Ideal for Low Current and Amplifiers and Oscillators



ESD: Electrostatic discharge sensitive device, observe handling precautions!

Type	Marking	Ordering Code (8-mm taped)	Pin Configuration			Package
			1	2	3	
BFR340T			B	E	C	P-SC-75

Maximum Ratings

Parameter	Symbol		Unit
Collector-emitter voltage	V_{CEO}	6	V
Collector-base voltage	V_{CBO}	17	V
Emitter-base voltage	V_{EBO}	3	V
Collector current	I_C	10	mA
Base current	I_B	2	mA
Total power dissipation, $T_S \leq tbd.$ ¹⁾²⁾	P_{tot}	tbd	mW
Junction temperature	T_j	tbd	°C
Ambient temperature range	T_A	-65...+150°C	°C
Storage temperature range	T_{stg}	-65...+150°C	°C

Thermal Resistance

Junction-soldering point ¹⁾	$R_{th JS}$	tbd	K/W
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1) T_S is measured on the emitter lead at the soldering point to the pcb.

2) P_{tot} due to Maximum Ratings.

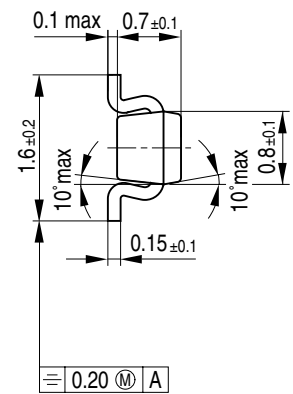
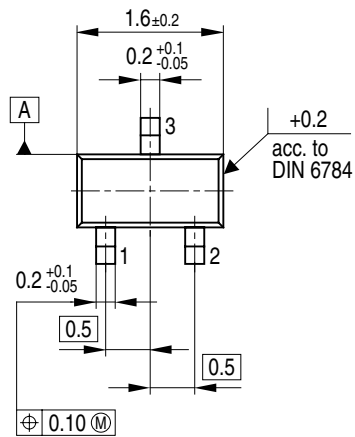
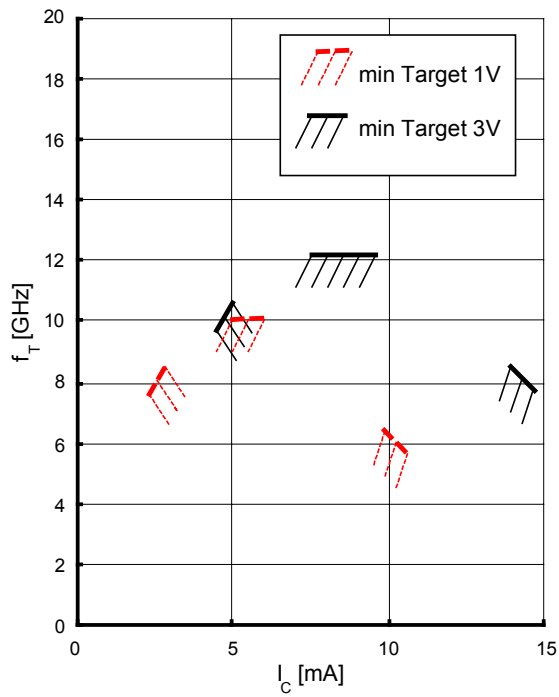
Electrical Characteristics

at $T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage I _C =1mA, I _B =0	V _{(BR)CEO}	6	8		V
Collector-cutoff current V _{CB} =5V	I _{CBO}	-	-	100	nA
Emitter base cutoff current V _{CB} =1V	I _{EBO}	-	-	100	nA
DC current gain V _{CE} =2V, I _C =5mA	h _{FE}	70	100	140	
AC Characteristics					
Gain Bandwidth V _{CE} =3V, I _C =8mA, f _{meas} =1GHz	f _T		16		GHz
1/f corner frequency	f _C				kHz
Collector-base capacitance	C _{cb}	-	tbd		pF
Collector-emitter capacitance	C _{ce}	-	tbd	-	pF
Emitter-base capacitance	C _{eb}	-	tbd	-	pF
Noise figure (50Ω), f=2GHz V _{CE} =3V, I _C =10mA V _{CE} =1V, I _C =5mA	F ₅₀	-	2.3 1.8	2.7 2.2	dB
Power gain, f=2GHz V _{CE} =3V, I _C =10mA V _{CE} =1V, I _C =5mA	G _{ms} ¹⁾ G _{ma}	-	16.5 16	-	dB
Insertion power gain, f=2GHz V _{CE} =3V, I _C =10mA V _{CE} =1V, I _C =5mA	S ₂₁ ²		12.5 11.5	-	dB
Third order intercept point at output V _{CE} =3V, I _C =10mA V _{CE} =1V, I _C =5mA	OIP ₃	-	tbd tbd	-	dBm
1dB Compression point V _{CE} =3V, I _C =10mA V _{CE} =1V, I _C =5mA	P _{-1dB}	-	tbd tbd	-	dBm

$$1) G_{ms} = \left| \frac{S_{21}}{S_{12}} \right|$$

Transition frequency $f_T = f(I_C)$
minimum target specification



GPS05996