



BFS17N

NPN RF TRANSISTOR IN SOT-23

Features

- Lead, Halogen, and Antimony Free/RoHS Compliant (Note 1)
- "Green" Device (Note 2)

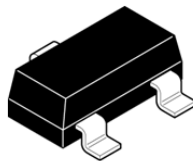
Applications

- RF Switch

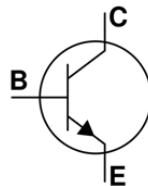
Mechanical Data

- Case: SOT-23
- Case material: molded Plastic. "Green" molding Compound.
- UL Flammability Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish
- Weight: 0.008 grams (approximate)

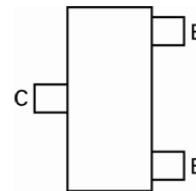
SOT-23



Top View



Device symbol



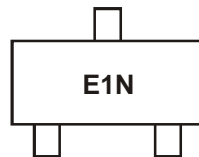
Top View
Pin Out

Ordering Information (Note 3)

Product	Case	Reel size (inches)	Tape width (mm)	Quantity per reel
BFS17NTA	SOT-23	7	8mm	3000

- Notes:
1. No purposefully added lead. Halogen and Antimony Free.
 2. Diodes Inc.'s "Green" Policy can be found on our website at <http://www.diodes.com>
 3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



E1N = Product type Marking Code

NEW PRODUCT

Maximum Ratings @T_A = 25°C unless otherwise specified

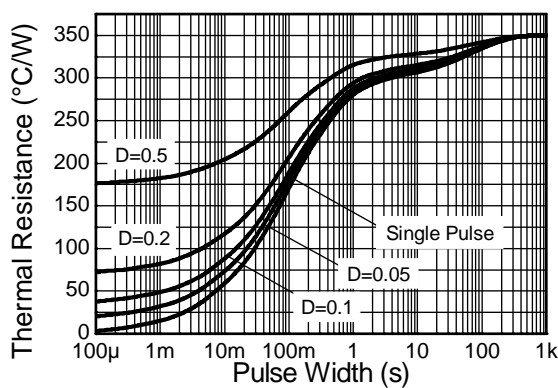
Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	20	V
Collector-Emitter Voltage	V _{CEO}	11	V
Emitter-Base Voltage	V _{EBO}	3	V
Continuous Collector Current	I _C	50	mA

Thermal Characteristics

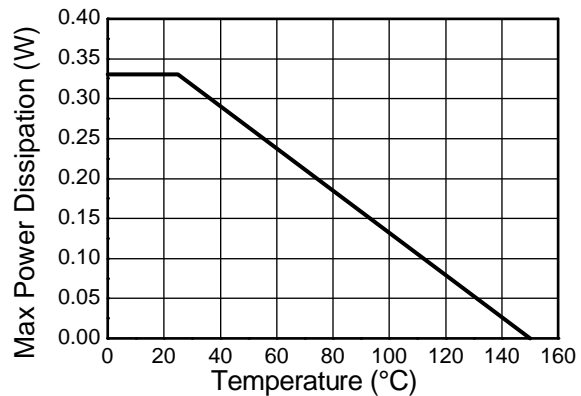
Characteristic	Symbol	Value	Unit
Power Dissipation at T _A = 25°C (Note 4)	P _D	330	mW
Thermal Resistance, Junction to Ambient (Note 4) @ T _A = 25°C	R _{θJA}	380	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Notes: 4. For a device surface mounted on 15mm X 15mm X 1.6mm FR4 PCB with high coverage of single sided 1 oz copper, in still air conditions

Thermal Characteristics and Derating information



Transient Thermal Impedance



Derating Curve

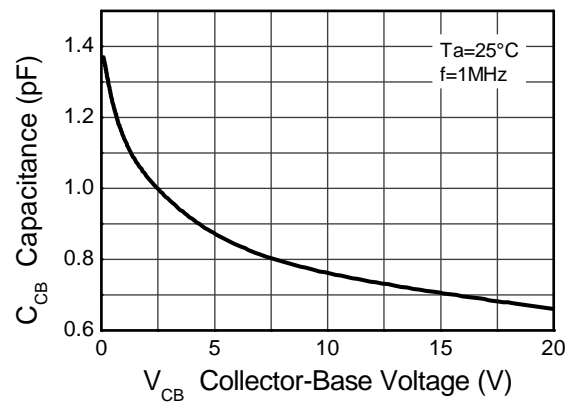
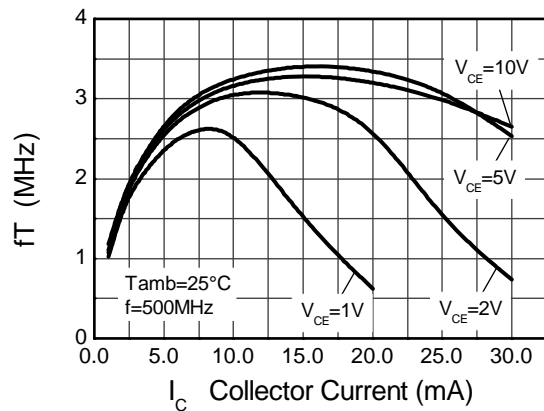
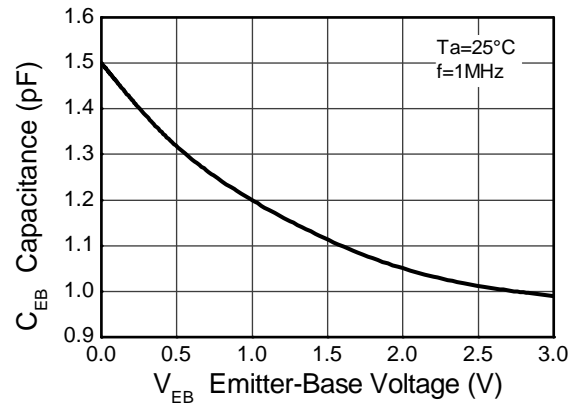
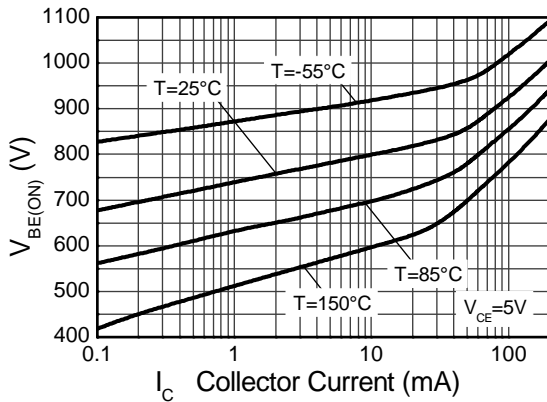
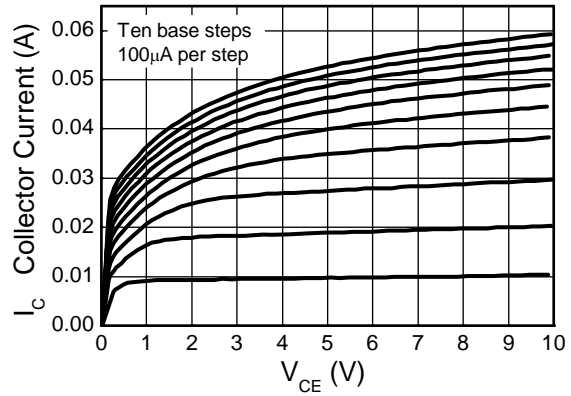
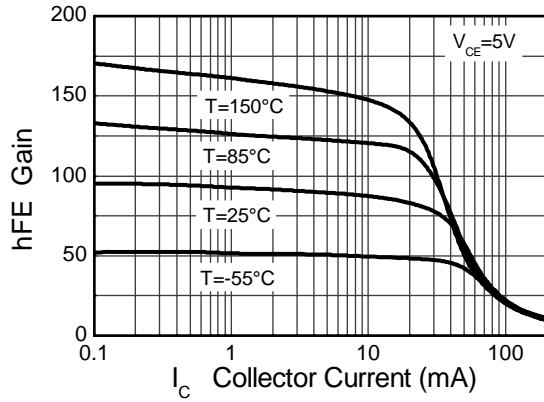
Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	V _{(BR)CBO}	20	–	–	V	I _C = 10μA
Collector-Emitter Breakdown Voltage (Note 5)	V _{(BR)CEO}	11	–	–	V	I _C = 1mA
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	3	–	–	V	I _E = 10μA
Collector Cutoff Current	I _{CBO}	–	–	0.5	μA	V _{CB} = 10V
Emitter Cutoff Current	I _{EBO}	–	–	0.5	μA	V _{EB} = 2V
Static Forward Current Transfer Ratio (Note 5)	h _{FE}	56	–	180	–	I _C = 5mA, V _{CE} = 10V
Collector-Emitter Saturation Voltage (Note 5)	V _{CE(sat)}	–	–	0.5	V	I _C = 25mA, I _B = 5mA
Transition Frequency (Note 5)	f _T	1.4	3.2	–	GHz	I _E = 25mA, V _{CE} = 5V, f = 500MHz
Collector Output Capacitance (Note 5)	C _{ob}	–	0.8	1.5	pF	V _{CB} = 10V, f = 1MHz

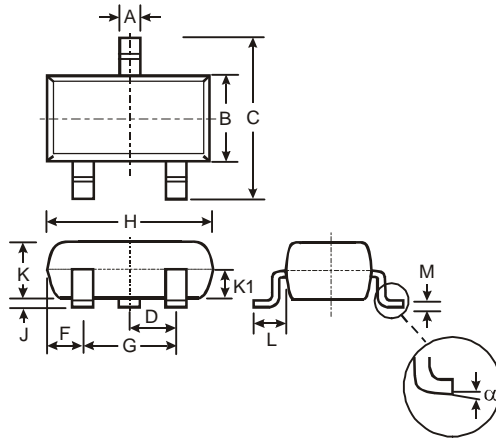
Notes: 5. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%

Typical Characteristics

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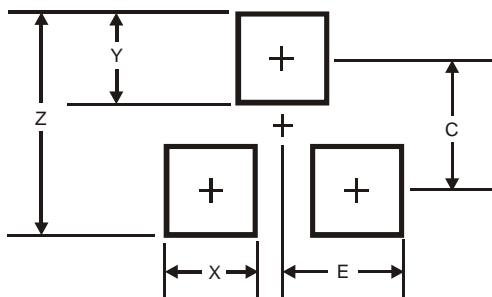


Package Outline Dimensions



SOT-23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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