ZUMTS17N

NPN RF TRANSISTOR IN SOT-323

Features

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

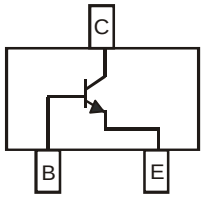
Applications

- **RF Switch**

Mechanical Data

- Case: SOT-323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating) Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.006 grams (approximate)

Top View



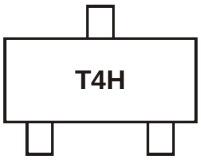
Device Schematic

Ordering Information (Note 3)

Part Number	Case	Reel size (inches)	Tape width (mm)	Packaging
ZUMTS17NTA	SOT-323	7	8mm	3000/Tape & Reel

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/products/lead_free/index.php.
3. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



T4H = Product Type Marking Code

Maximum Ratings @T_A = 25°C unless otherwise specified

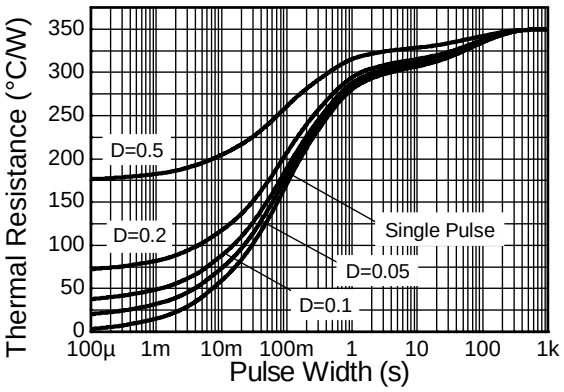
Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	11	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current – Continuous (Note 4)	I_C	50	mA

Thermal Characteristics

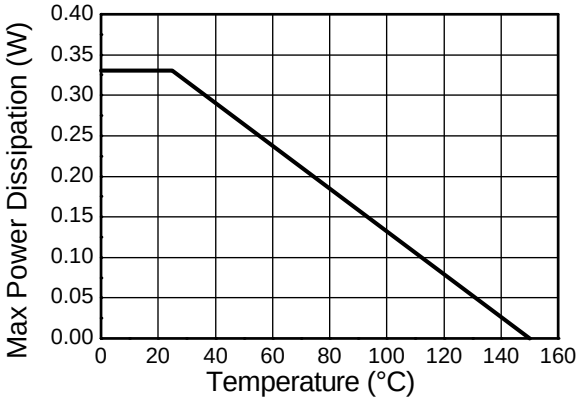
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P_D	330	mW
Thermal Resistance, Junction to Ambient (Note 4)	$R_{\theta JA}$	378	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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



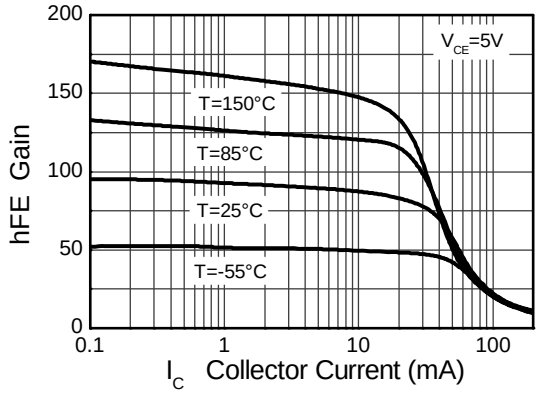
Derating Curve

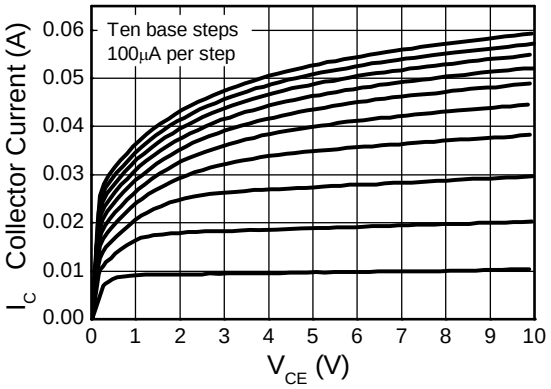
Electrical Characteristics @T_A = 25°C unless otherwise specified

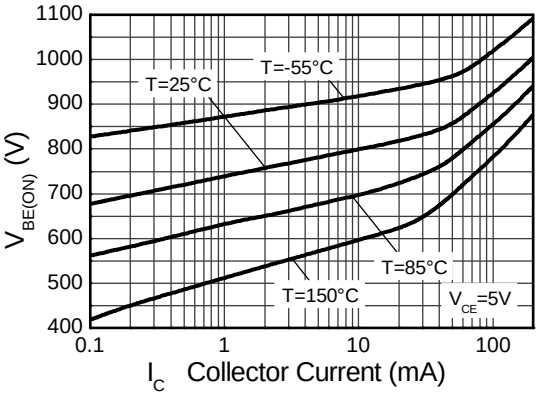
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 5)						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	20	—	—	V	I_C = 10μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	11	—	—	V	I_C = 1.0mA
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	3	—	—	V	I_E = 10μA
Collector Cutoff Current	I_{CBO}	—	—	0.5	μA	V_{CE} = 10V
Emitter Cutoff Current	I_{EBO}	—	—	0.5	μA	V_{EB} = 2V
DC Current Gain	h_{FE}	56	—	180	—	I_C = 5mA, V_{CE} = 10V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	—	0.5	V	I_C = 10mA, I_B = 5mA
Current Gain-Bandwidth Product	f_T	1.4	3.2	—	GHz	V_{CE} = 5V, I_E = 25mA, f = 500MHz
Output Capacitance	C_{ob}	—	0.8	1.5	pF	V_{CB} = 10V, f = 1.0MHz

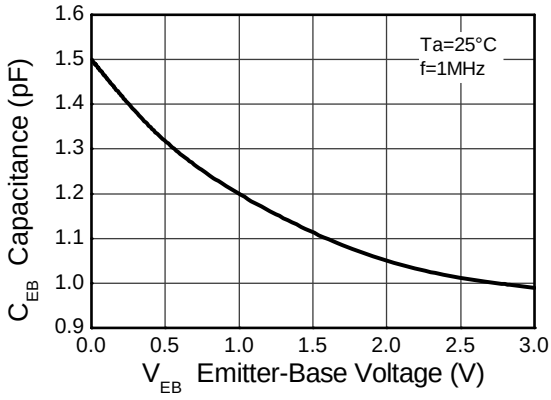
Notes: 5.Measured under pulsed conditions. Pulse width ≤ 300 μs. Duty cycle ≤ 2%

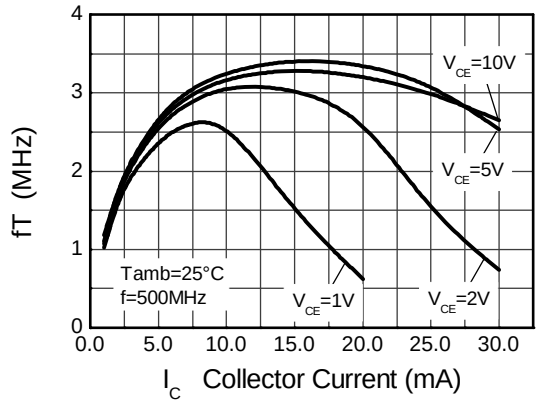
Typical Characteristics

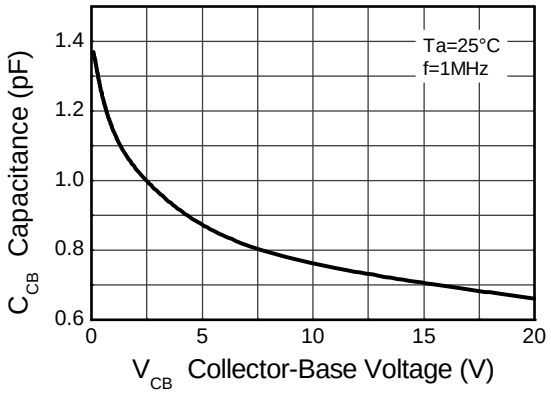




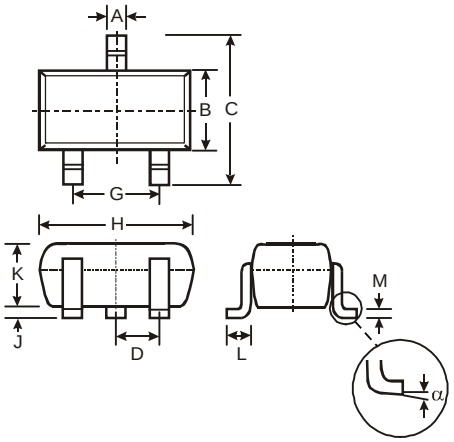






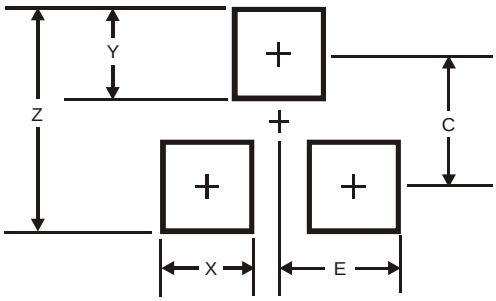


Package Outline Dimensions



SOT-323			
Dim	**Min**	**Max**	**Typ**
A	0.25	0.40	0.30
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	-	-	0.65
G	1.20	1.40	1.30
H	1.80	2.20	2.15
J	0.0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.8
X	0.7
Y	0.9
C	1.9
E	1.0

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