

### **Features**

- **Epitaxial Planar Die Construction**
- Ideally Suited for Automated Assembly Processes
- Ideal for Medium Power Switching or Amplification Applications
- Complementary PNP Type (2DB1714) Available
- Lead Free By Design/RoHS Compliant (Note 1)
- "Green" Device (Note 2)



2DD2679

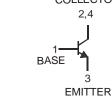
LOW V<sub>CE(SAT)</sub> NPN SURFACE MOUNT TRANSISTOR

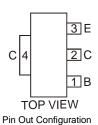
### **Mechanical Data**

- Case: SOT89-3L
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish Matte Tin annealed over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 4
- Ordering Information: See Page 4
- Weight: 0.072 grams (approximate)



3





**Device Schematic** 

### **Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Top View

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	30	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter-Base Voltage	V <sub>EBO</sub>	6	V
Peak Pulse Current	Ісм	4	А
Continuous Collector Current	lc	2	А

## **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3) @ T <sub>A</sub> = 25°C	PD	0.9	W
Thermal Resistance, Junction to Ambient Air (Note 3) @ $T_A = 25^{\circ}C$	$R_{ ext{ heta}JA}$	139	°C/W
Power Dissipation (Note 4) @ T <sub>A</sub> = 25°C	PD	2	W
Thermal Resistance, Junction to Ambient Air (Note 4) @ $T_A = 25^{\circ}C$	$R_{ hetaJA}$	62.5	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

### Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Conditions
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	30	_	_	V	$I_{C} = 10 \mu A$ , $I_{E} = 0$
Collector-Emitter Breakdown Voltage (Note 5)	V <sub>(BR)CEO</sub>	30	—		V	$I_{\rm C} = 1 {\rm mA},  I_{\rm B} = 0$
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	6	_		V	$I_{E} = 10 \mu A, I_{C} = 0$
Collector Cut-Off Current	I <sub>CBO</sub>		_	0.1	μΑ	$V_{CB} = 30V, I_E = 0$
Emitter Cut-Off Current	I <sub>EBO</sub>	_	_	0.1	μΑ	$V_{EB} = 6V, I_{C} = 0$
ON CHARACTERISTICS (Note 5)					•	
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>		80	370	mV	I <sub>C</sub> = 1.5A, I <sub>B</sub> = 75mA
DC Current Gain	h <sub>FE</sub>	270	_	680		$V_{CE} = 2V, I_{C} = 200 \text{mA}$
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C <sub>obo</sub>		11	—	pF	$V_{CB} = 10V, I_E = 0,$ f = 1MHz
Current Gain-Bandwidth Product	f <sub>T</sub>	_	240	_	MHz	$V_{CE} = 2V, I_C = 100mA,$ f = 100MHz

Notes: No purposefully added lead. 1.

2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php.

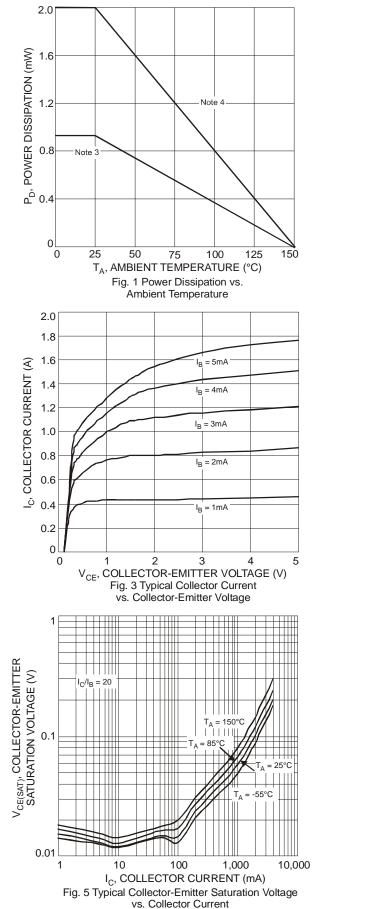
Device mounted on FR-4 PCB with minimum recommended pad layout. 3.

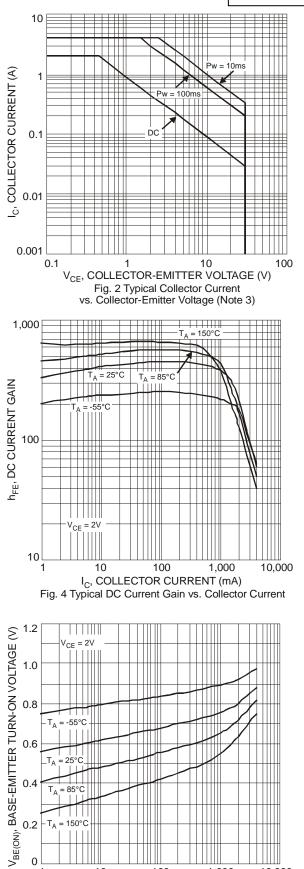
Device mounted on FR-4 PCB with 1 inch<sup>2</sup> Copper pad layout. 4.

5. Measured under pulsed conditions. Pulse width =  $300\mu$ s. Duty cycle  $\leq 2\%$ .



## 2DD2679





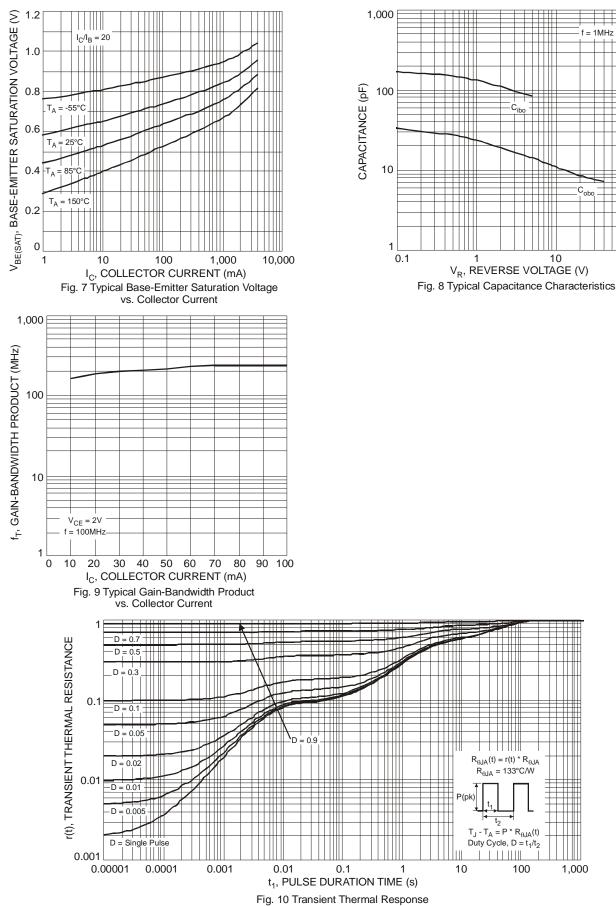
NEW PRODUCT

2DD2679 Document number: DS31629 Rev. 2 - 2 Downloaded from Arrow.com.



# 2DD2679

100



2DD2679 Document number: DS31629 Rev. 2 - 2 Downloaded from Arrow.com.

December 2008 © Diodes Incorporated

NEW PRODUCT



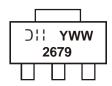
2DD2679

### Ordering Information (Note 6)

-		
Part Number	Case	Packaging
2DD2679-13	SOT89-3L	2500/Tape & Reel

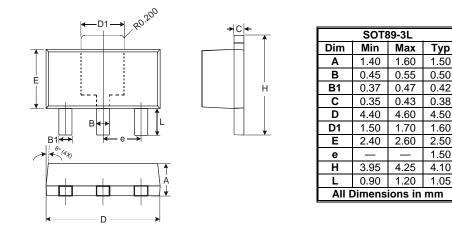
Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

## **Marking Information**

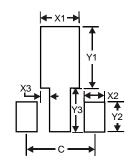


2679 = Product Type Marking Code YWW = Date Code Marking Y = Last digit of year (ex: 8 = 2008) WW = Week code 01 - 52

## **Package Outline Dimensions**



## **Suggested Pad Layout**



Dimensions	Value (in mm)
X1	1.7
X2	0.9
X3	0.4
Y1	2.7
Y2	1.3
Y3	1.9
С	3.0

#### IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.