

Features

- **Epitaxial Planar Die Construction**
- Ideally Suited for Automated Assembly Processes
- Ideal for Medium Power Switching or Amplification Applications
- Complementary PNP Type Available (2DB1697)
- Lead Free By Design/RoHS Compliant (Note 1)
- "Green" Device (Note 2)



2DD2661

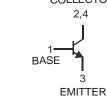
LOW V_{CE(SAT)} NPN SURFACE MOUNT TRANSISTOR

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 3
- Ordering Information: See Page 3
- Weight: 0.072 grams (approximate)



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3 E CI4 2 C 1 B TOP VIEW

Pin Out Configuration

Device Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

Top View

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	15	V
Collector-Emitter Voltage	V _{CEO}	12	V
Emitter-Base Voltage	V _{EBO}	6	V
Peak Pulse Current	ICM	4	A
Continuous Collector Current	lc	2	А

Thermal Characteristics

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

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Conditions
OFF CHARACTERISTICS					<u>.</u>	
Collector-Base Breakdown Voltage	V _{(BR)CBO}	15	_	_	V	$I_{C} = 10 \mu A, I_{E} = 0$
Collector-Emitter Breakdown Voltage (Note 5)	V _{(BR)CEO}	12	—	_	V	$I_{\rm C} = 1 {\rm mA}, I_{\rm B} = 0$
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	6	_		V	$I_{E} = 10 \mu A, I_{C} = 0$
Collector Cut-Off Current	I _{CBO}	_	_	0.1	μA	$V_{CB} = 15V, I_E = 0$
Emitter Cut-Off Current	I _{EBO}	_	_	0.1	μΑ	$V_{EB} = 6V, I_{C} = 0$
ON CHARACTERISTICS (Note 5)						
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	_	—	180	mV	$I_{\rm C} = 1$ A, $I_{\rm B} = 50$ mA
DC Current Gain	h _{FE}	270	_	680	_	$V_{CE} = 2V, I_{C} = 200 \text{mA}$
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C _{obo}	—	26	—	pF	$V_{CB} = 10V, I_E = 0,$ f = 1MHz
Current Gain-Bandwidth Product	f _T		170	_	MHz	$V_{CE} = 2V$, $I_C = 100$ mA, 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.

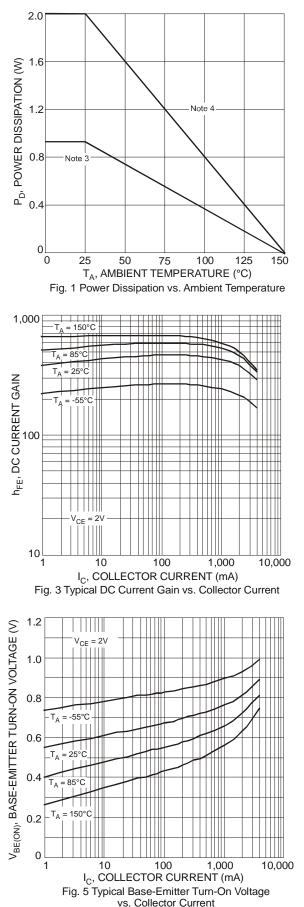
Device mounted on FR-4 PCB with minimum recommended pad layout. 3.

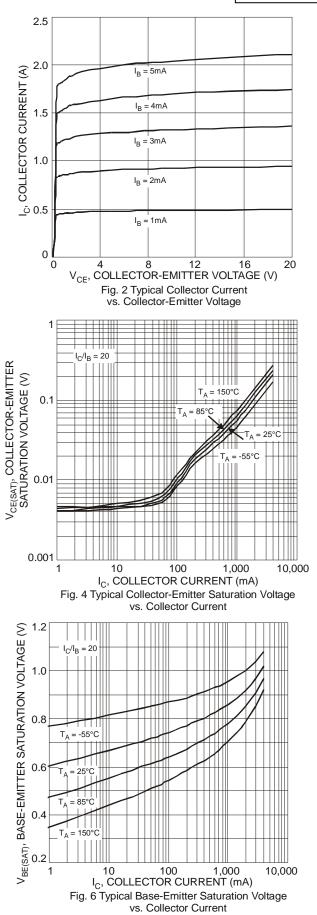
Device mounted on FR-4 PCB with 1 inch² copper pad layout. 4.

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





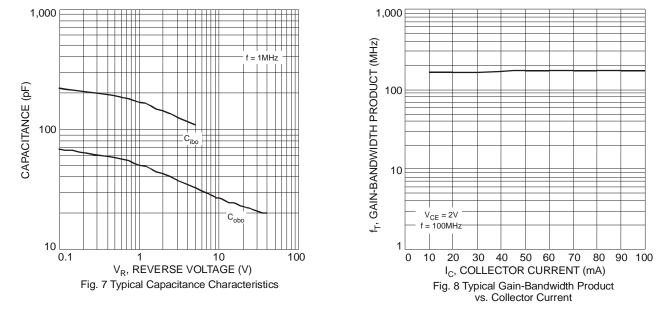




NEW PRODUCT



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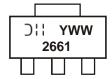


Ordering Information (Note 6)

Part Number	Case	Packaging
2DD2661-13	SOT89-3L	2500/Tape & Reel

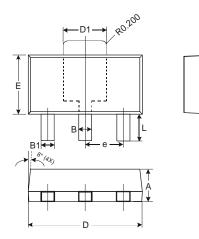
Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



2661 = Product Type Marking Code YWW = Date Code Marking Y = Last digit of year (ex: 8 = 2008) WW = Week code 01 - 52

Package Outline Dimensions



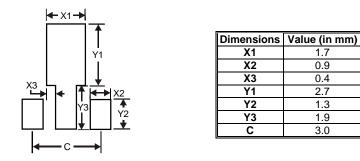
SOT89-3L					
Dim	Min	Max	Тур		
Α	1.40	1.60	1.50		
В	0.45	0.55	0.50		
B1	0.37	0.47	0.42		
С	0.35	0.43	0.38		
D	4.40	4.60	4.50		
D1	1.50	1.70	1.60		
Е	2.40	2.60	2.50		
е	_	_	1.50		
Н	3.95	4.25	4.10		
L	0.90	1.20	1.05		
All Dimensions in mm					

2DD2661 Document number: DS31635 Rev. 2 - 2



2DD2661

Suggested Pad Layout



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