

**DSR15V600** 

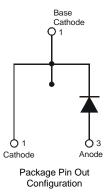
# **15A DIODESTAR RECTIFIER**

### Features

- DIODESTAR<sup>TM</sup> is a Proprietary Process for High Voltage Rectifiers which Delivers:
  - Ultra-Fast Reverse Recovery (t<sub>rr</sub> < 30ns) Giving a Rapid Switching Response
  - Soft Recovery for Low EMI Noise
  - Excellent High Temperature Stability
  - High Forward Surge Capability
  - Enables High Efficiency as the Boost Diode in PFC Circuits
- Lead Free Finish, RoHS Compliant (Note 1)

# **Mechanical Data**

- Case: TO220AC
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 🚳



### Ordering Information (Note 2)

Part Number	Case	Packaging
DSR15V600	TO220AC	50 pieces/tube
DSR15V600-G	TO220AC	50 pieces/tube

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.

2. For packaging details, go to our website at http://www.diodes.com.

3. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: DSR15V600-G

## **Marking Information**



DSR15V600 = Product Type Marking Code AB = Foundry and Assembly Code YYWW = Date Code Marking YY = Last two digits of year (ex: 10 = 2010) WW = Week (01 - 53)



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

Single phase, half wave, 60Hz, resistive or inductive load.			
Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>RM</sub>	600	V
Average Rectified Output Current	lo	15	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	140	А
Repetitive Peak Avalanche Power (1µs, 25℃)	PARM	10,000	W

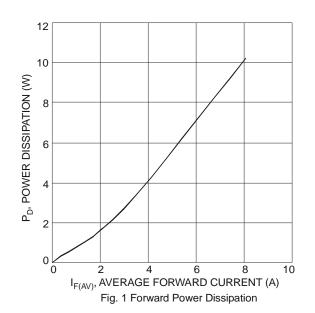
# **Thermal Characteristics**

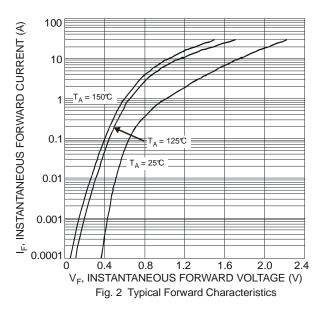
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	$R_{ ext{ heta}JC}$	2	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

# **Electrical Characteristics** $@T_A = 25$ °C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition	
Forward Voltage Drop	V <sub>F</sub>	-	-	3.2	V	I <sub>F</sub> = 15A, T <sub>J</sub> = 25°C	
Leakage Current (Note 4)	I <sub>R</sub>	-	-	50	μA	$V_R = 600V, T_J = 25^{\circ}C$	
Reverse Recovery Time	t <sub>rr</sub>	-	23	30	ns	$I_F = 1A, V_R = 30V,$ di/dt = 100A/ $\mu$ s	
Softness Factor	S	-	1.0	-	-		
Reverse Recovery Current	I <sub>RM</sub>	-	3.6	-	Α	$I_{\rm F} = 15$ A, dl/dt = 200A/µs,	
Reverse Recovery Charges	Q <sub>rr</sub>	-	87	-	nC	$V_{R} = 400V, T_{J} = 25^{\circ}C$	
Softness Factor	S	-	0.6	-	-		
Reverse Recovery Current	I <sub>RM</sub>	-	6.9	-	Α	$I_F = 15A$ , dl/dt = 200A/ $\mu$ s,	
Reverse Recovery Charges	Qrr	-	256	-	nC	V <sub>R</sub> = 400V, T <sub>J</sub> = 125⁰C	
Junction Capacitance	CJ	-	80	-	pF	4.0V, 1MHz	

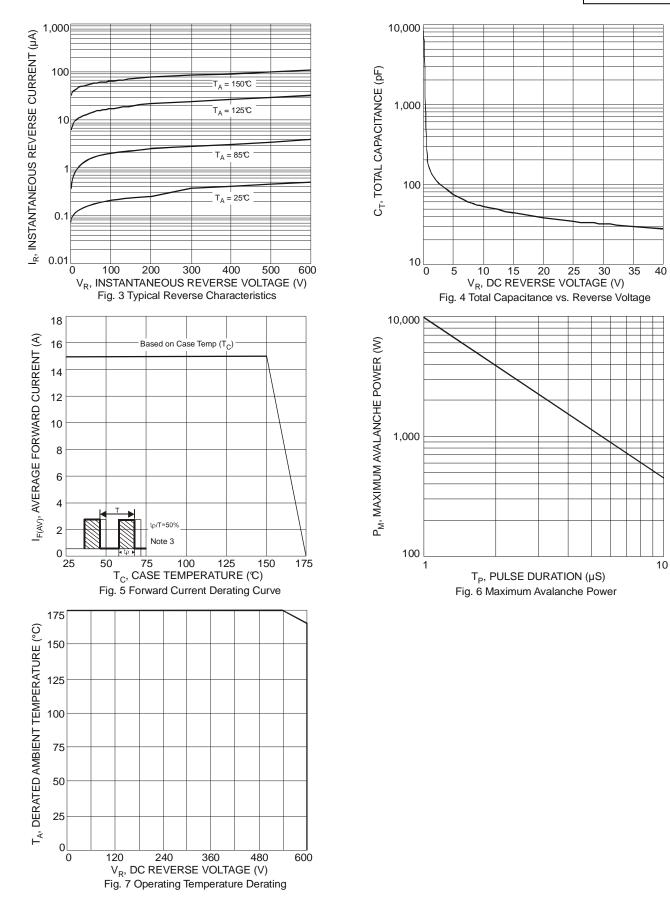
Notes: 4. Short duration pulse test used to minimize self-heating effect.







# DSR15V600





# Package Outline Dimensions

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DSR15V600	4 of 5	September 2011
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DSR15V600

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