Solid State Devices, Inc.
14701 Firestone Blvd. * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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SSR12C50S.22
SSR12C60S.22

DESIGNER'S DATA SHEET

12 AMP, 500 - 600 VOLTS SILICON CARBIDE SCHOTTKY RECTIFIER

Part Number / Ordering Information [1/]

SSR12C 60 — **Screening**[2/]
- ___ = Not Screened
- TX = TX Level
- TXV = TXV Level
- S = S Level

Package
- S.22 = SMD.22

Voltage
- 50 = 500 V
- 60 = 600 V

Note: Pads 2 & 3 must be connected together at board level for advertised performance.

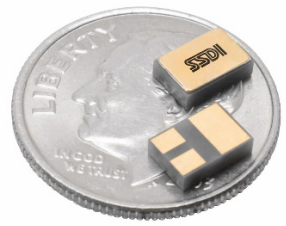
Features:
- 500 - 600 V Silicon Carbide Schottky Rectifier
- Switching Behavior Benchmark
- No Reverse Recovery
- No Forward Recovery
- No Switching Time Change Over Temperature
- Low Forward Voltage Drop
- Hermetically Sealed Surface Mount Package
- Small Footprint
- TX, TXV, and Space Level Screening Available[2/]

Maximum Ratings[3/ 4/]		Symbol	Value	Unit
Peak Repetitive Reverse and Peak Surge Reverse Voltage	SSR12C50 SSR12C60	V_{RRM} V_{RSM}	500 600	**V**
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave)		I_O	12	**A**
Non Repetitive Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_O)		I_{FSM}	50	**A**
Power Dissipation		P_D	14.3	**W**
Operating & Storage Temperature		T_{OP} & T_{STG}	-55 to +175	**°C**
Maximum Thermal Resistance Junction to Case		$R_{\theta JC}$	2.5	**°C/W**

Notes:
1/ For ordering information, price, operating curves, and availability – contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.
3/ All electrical characteristics @ 25°C unless otherwise specified.
4/ Both legs tied together.
5/ Forward voltage drop measured with short pulse width (300 µs typ).

Available Part Numbers:
SSR12C50S.22, SSR12C60S.22

SMD.22 (S.22)



**dime used for size reference*

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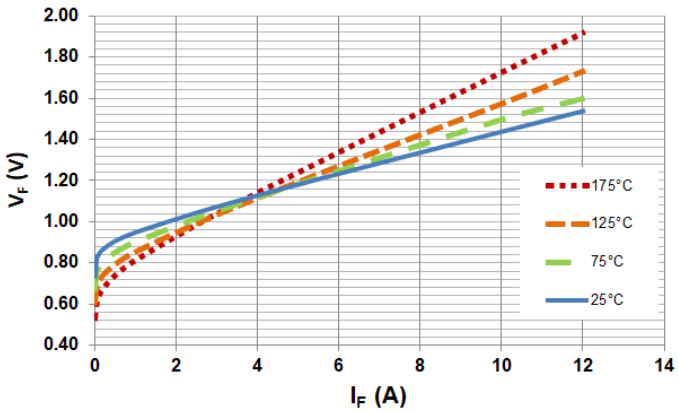
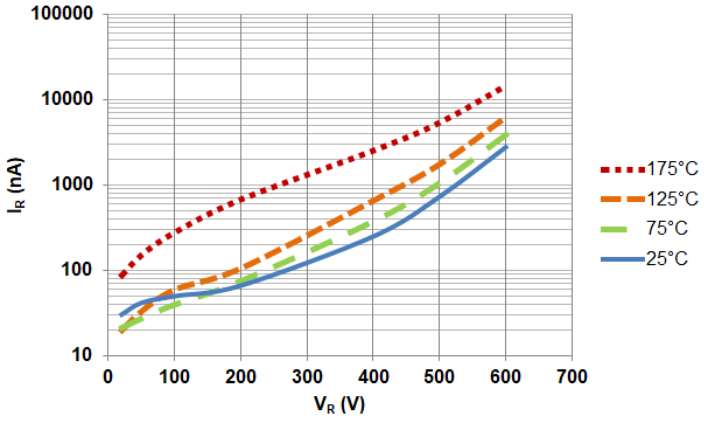
Electrical Characteristic[3/ 4/ 5/]		Symbol	Min	Typ	Max	Unit
Instantaneous Forward Voltage Drop	I_F = 3 A I_F = 6 A I_F = 12 A	V_{F1} V_{F2} V_{F3}	— — —	1.07 1.23 1.54	— — 1.75	**V**
Instantaneous Forward Voltage Drop	I_F = 12 A, T_J = 125°C	V_{F4}	—	1.73	1.95	**V**
Reverse Leakage Current	V_R = Rated V_R	I_{R1}	—	3	25	**µA**
Reverse Leakage Current	V_R = Rated V_R, T_J = 125°C	I_{R2}	—	6	50	**µA**
Junction Capacitance (T_C = 25°C, f = 1MHz)	V_R = 5 V V_R = 10 V	C_J	—	300 220	— 310	**pF**

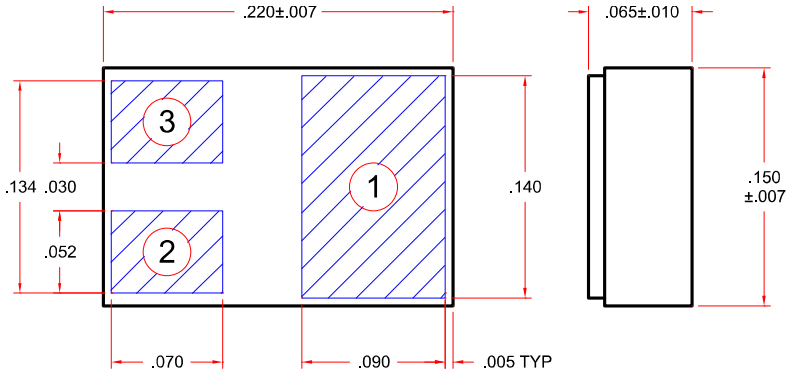
Typical V_F vs I_F vs T_J



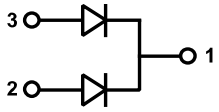
Typical I_R vs V_R vs T_J

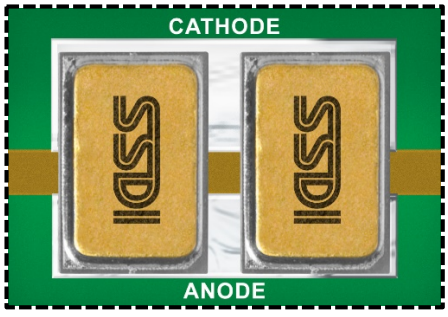


CASE OUTLINE: SMD.22 (S.22)



PIN ASSIGNMENT			
Package	**Pin 1**	**Pin 2**	**Pin 3**
SMD.22	Cathode	Anode 1	Anode 2





Suggested PCB pad layout for 2 devices in parallel - output current of 24 amps

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