TECHNICAL DATA,
DATA SHEET 5053 REV. A

HERMETIC SILICON CARBIDE RECTIFIER

DESCRIPTION: A 1200-VOLT, 10 AMP POWER SILICON CARBIDE RECTIFIER IN A CERAMIC HERMETIC LCC-3P PACKAGE

FEATURES:

- NO RECOVERY TIME OR REVERSE RECOVERY LOSSES
- NO TEMPERATURE INFLUENCE ON SWITCHING BEHAVIOR
- SCREENED VERSIONS ARE AVAILABLE

MAXIMUM RATINGS ALL RATINGS ARE @ T_C = 25 °C UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MAX.	UNITS
PEAK INVERSE VOLTAGE	PIV	1200	Volts
MAXIMUM DC OUTPUT CURRENT (With Cathode Maintained @ T_C = 65 ^{O}C)	I_O	10	Amps
MAXIMUM DC OUTPUT CURRENT (With Cathode Maintained @ T_C = 65 ^{O}C, for Single Package)	I_O	5	Amps
MAXIMUM REPETITIVE FORWARD SURGE CURRENT PER LEG (t = 8.3ms, Sine) T_C = 25 ^{O}C	I_{FRM}	30	Amps
MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG (t = 10μs, pulse) T_C = 25 ^{O}C	I_{FSM}	100	Amps
MAXIMUM POWER DISSIPATION, T_C = 25 ^{O}C	P_d	15	W
MAXIMUM THERMAL RESISTANCE, Junction to Case (per dual package)	$R_{\theta JC}$	1.30	°C/W
MAXIMUM OPERATING TEMPERATURE RANGE*	Top &Tstg	-55 to +200	°C

***** Note: SiC semiconductors will handle at or above this operating and storage temperature. However, extended operational use of the packaged device above 175C may reduce its future performance. All qualification testing and screening per MIL-PRF-19500 will only be performed to 175C.

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC		TYP	MAX.	UNITS
MAXIMUM FORWARD VOLTAGE DROP (I_f = 5 A per leg) V_f	T_J = 25 °C	1.6	1.8	
	T_J = 150 °C	2.6	3.0	Volts
MAXIMUM REVERSE CURRENT (1200V PIV per leg) I_r	T_J = 25 °C	0.05	0.20	
	T_J=150 °C	0.10	1.00	mA
TOTAL CAPACITIVE CHARGE (V_R=1200V I_F=5A di/dt=500A/μs T_J=25°C) Q_C per leg		28	N/A	nC
MAXIMUM JUNCTION CAPACITANCE (V_r=5V) PER LEG	C_T	450		PF

Application Note: Customers should be aware that at the current stage of technical development of SiC, the reverse avalanche capabilities of the device are limited.Customer designs will need to accommodate these limitations and avoid exposure of the device to this and other potentially damaging conditions in their applications.

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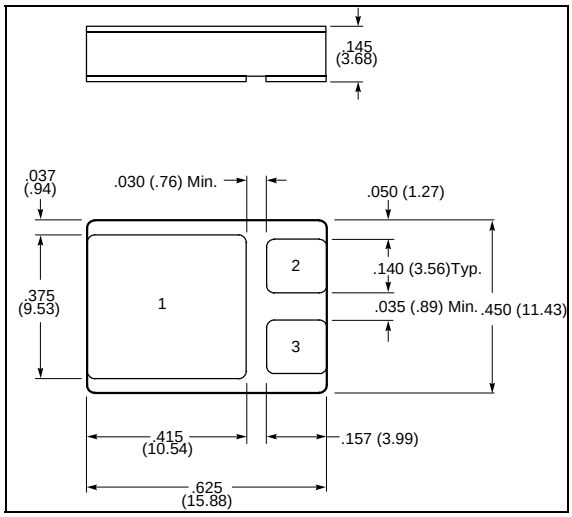
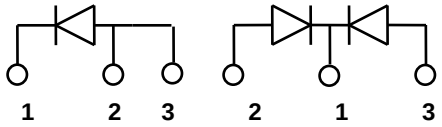
MECHANICAL DIMENSIONS: IN Inches / mm



LCC-3P

SINGLE **COMMON CATHODE**



NOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
SHD619052 SINGLE RECTIFIER	CATHODE	ANODE	ANODE
SHD619052P COMMON CATHODE	COMMON CATHODE	ANODE 1	ANODE 2

Figure 1. Forward Characteristics

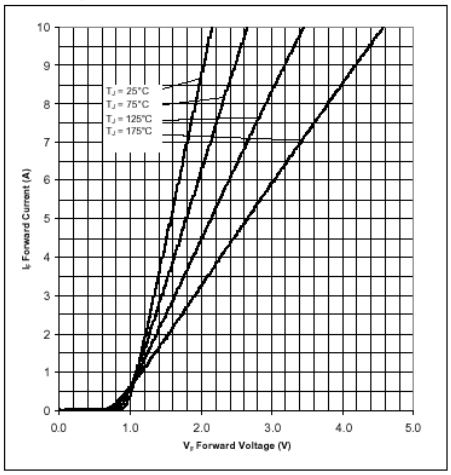


Figure 2. Reverse Characteristics