

650V SiC Schottky Diode

FEATURES

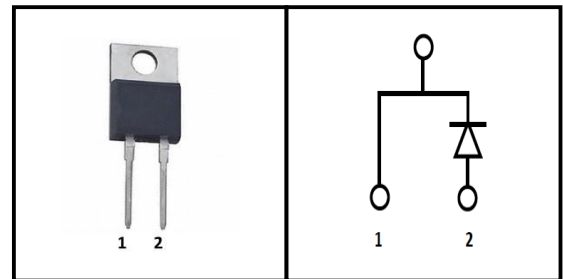
- Low Conduction and Switch Loss
- Positive Temperature Coefficient on VF
- Temperature Independent Switching Behavior
- Fast Reverse Recovery
- High Surge Current Capability
- Pb-free lead plating

BENEFITS

- Higher System Efficiency
- Parallel Device Convenience
- High Temperature Application
- High Frequency Operation
- Hard Switching & High Reliability
- Environmental Protection

APPLICATIONS

- Switch Mode Power Supply (SMPS)
- Uninterruptible Power Supply (UPS)
- Power Factor Correction (PFC)
- Solar/ Wind Renewable Energy
- Power Inverters
- Motor Drives



Device Marking and Package Information

Device	Package	Marking
C2S065H008B	TO-220-2L	C2S065H008B

Absolute Maximum Ratings $T_C = 25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Test Conditions	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	$T_J = 25^\circ\text{C}$	650	V
Peak Reverse Surge Voltage	V_{RSM}	$T_J = 25^\circ\text{C}$	650	V
DC Blocking Voltage	V_R	$T_J = 25^\circ\text{C}$	650	V
Continuous Forward Current	I_F	$T_J \leq 135^\circ\text{C}$	8	A
Repetitive Peak Forward Surge Current	I_{FRM}	$T_C = 25^\circ\text{C}$, $T_P = 8.3\text{ms}$ Half Sine Wave	75	A
Maximum Case Temperature	T_C		135	$^\circ\text{C}$
Operating Junction and Storage Temperature	T_J, T_{stg}		-55~175	$^\circ\text{C}$

Thermal Resistance

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-Case	R_{thJC}	1.4	$^\circ\text{C/W}$

Specifications $T_J = 25^{\circ}\text{C}$, unless otherwise noted

Parameter	Symbol	Test Conditions	Value		Unit
			Typ.	Max.	
Forward Voltage	V_F	$I_F = 8\text{A}, T_J = 25^{\circ}\text{C}$	1.42	1.65	V
		$I_F = 8\text{A}, T_J = 175^{\circ}\text{C}$	1.75	2.3	V
Reverse Current	I_R	$V_R = 650\text{V}, T_J = 25^{\circ}\text{C}$	1	20	μA
		$V_R = 650\text{V}, T_J = 175^{\circ}\text{C}$	5	100	μA
Total Capacitive Charge	Q_C	$I_F = 8\text{A}, di/dt = 200\text{A}/\mu\text{s}$ $V_R = 650\text{V}, T_J = 25^{\circ}\text{C}$	22	--	nC
Total Capacitance	C	$V_R = 0\text{V}, T_J = 25^{\circ}\text{C}, f = 1\text{ MHz}$	520	--	pF
		$V_R = 200\text{V}, T_J = 25^{\circ}\text{C}, f = 1\text{ MHz}$	50	--	
		$V_R = 400\text{V}, T_J = 25^{\circ}\text{C}, f = 1\text{ MHz}$	41	--	

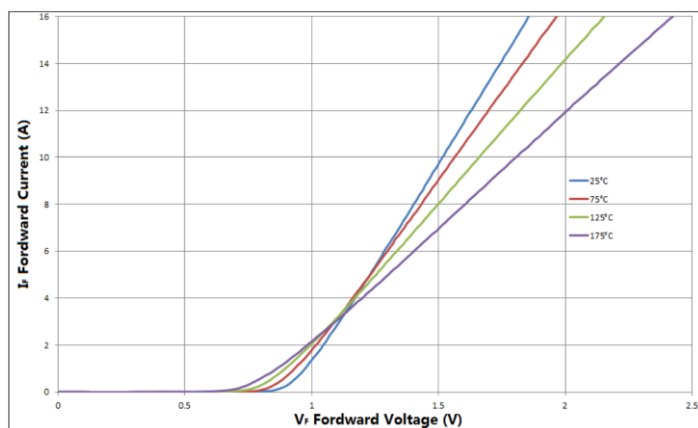


Fig. 1 Forward Characteristics

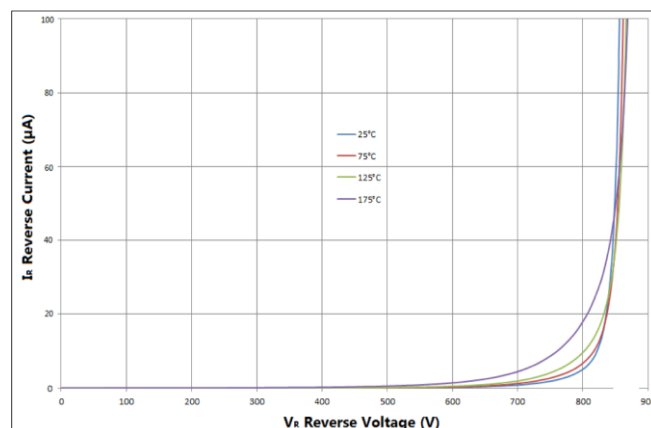


Fig. 2 Reverse Characteristics

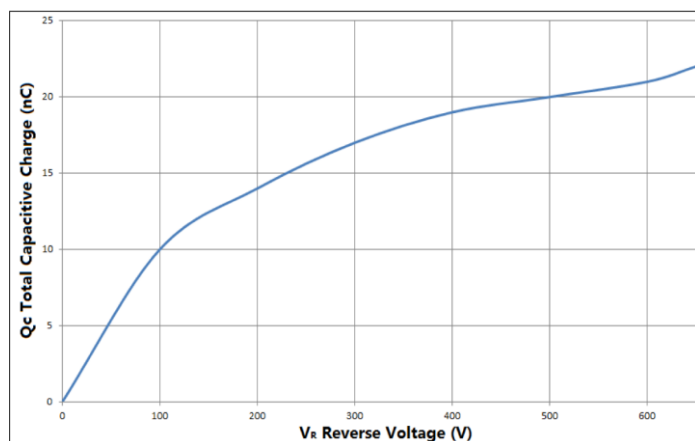


Fig. 3 Total Capacitance Charge vs. Reverse Voltage

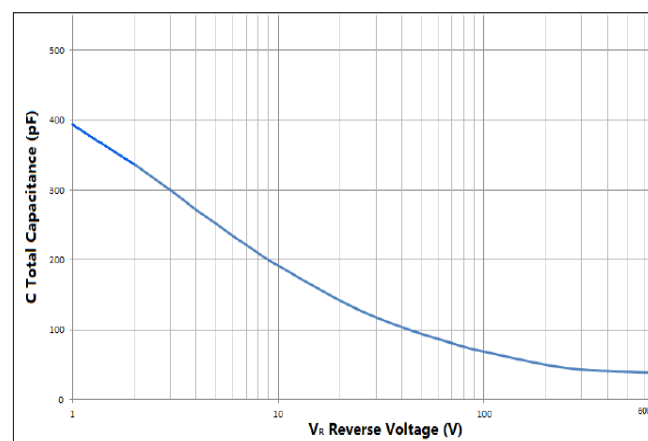


Fig. 4 Total Capacitance vs. Reverse Voltage

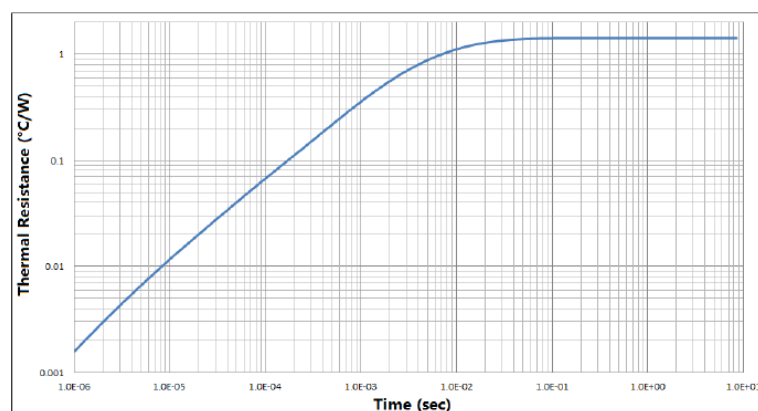
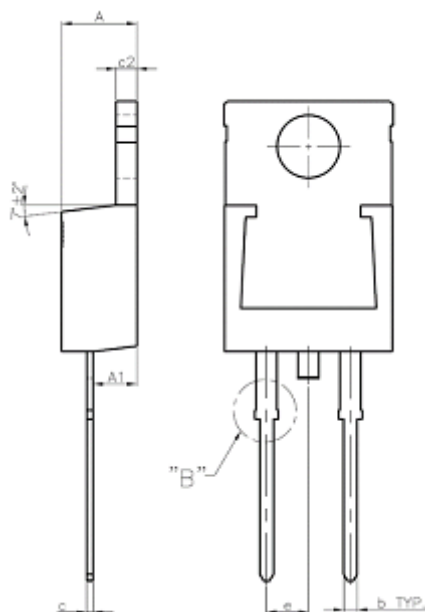
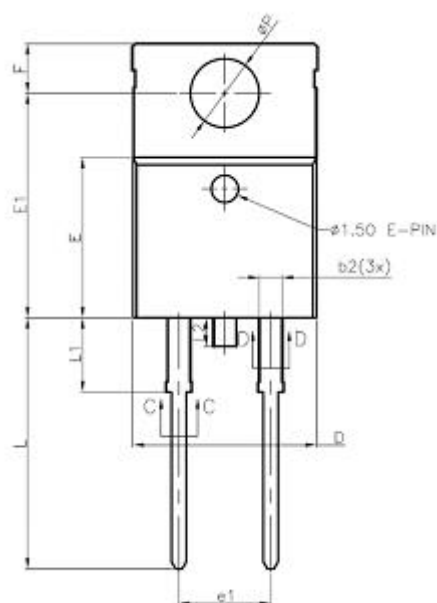


Fig. 5 Transient Thermal Impedance

TO-220-2L



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	4.470	—	4.670	0.176	—	0.184
A1	2.520	—	2.820	0.099	—	0.111
b	0.710	0.813	0.910	0.028	0.032	0.036
b1	0.710	—	0.910	0.028	—	0.036
b2	1.170	1.270	1.370	0.046	0.050	0.054
b3	1.170	—	1.370	0.046	—	0.054
c	0.279	—	0.483	0.011	—	0.019
c1	0.279	—	0.432	0.011	—	0.017
c2	1.170	—	1.370	0.046	—	0.054
D	10.010	—	10.310	0.394	—	0.406
E	8.763	8.890	9.017	0.345	0.350	0.355
E1	12.294	12.446	12.548	0.484	0.490	0.494
e	—	2.54 BSC	—	—	0.100 BSC	—
e1	4.980	—	5.180	0.196	—	0.204
F	2.642	2.743	2.946	0.104	0.108	0.116
G	0.000	—	0.127	0.000	—	0.005
L	13.700	—	14.10	0.539	—	0.555
L1	4.04	4.11	4.19	0.159	0.162	0.165
L2	—	—	1.60	—	—	0.063
øP	3.790	—	3.890	0.149	—	0.153



Disclaimer

All product specifications and data are subject to change without notice.

For documents and material available from this datasheet, Suzhou Convert does not warrant or assume any legal liability or responsibility for the accuracy, completeness of any product or technology disclosed hereunder.

No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document or by any conduct of Suzhou Convert.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless. Customers using or selling Suzhou Convert products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Suzhou Convert for any damages arising or resulting from such use or sale.

Suzhou Convert disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Suzhou Convert's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

Suzhou Convert Semiconductor CO., Ltd. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.

In the event that any or all Suzhou Convert products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.

Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. Suzhou Convert believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Schottky Diodes & Rectifiers](#) **category:**

Click to view products by [Convert Semiconductor](#) **manufacturer:**

Other Similar products are found below :

[CUS06\(Te85L,Q,M\)](#) [MA4E2039](#) [D1FH3-5063](#) [MBR0530L-TP](#) [MBR10100CT-BP](#) [MBR30H100MFST1G](#) [MMBD301M3T5G](#) [PMAD1103-LF](#) [PMAD1108-LF](#) [RB160M-50TR](#) [RB520S-30](#) [RB551V-30](#) [DD350N18K](#) [DZ435N40K](#) [DZ600N16K](#) [BAS16E6433HTMA1](#) [BAS 3010S-02LRH E6327](#) [BAT 54-02LRH E6327](#) [IDL02G65C5XUMA1](#) [NSR05F40QNXT5G](#) [NSVR05F40NXT5G](#) [JANS1N6640](#) [SB07-03C-TB-H](#) [SB1003M3-TL-W](#) [SBAT54CWT1G](#) [SBM30-03-TR-E](#) [SBS818-TL-E](#) [SK32A-LTP](#) [SK33A-TP](#) [SK34A-TP](#) [SK34B-TP](#) [SMD1200PL-TP](#) [ACDBN160-HF](#) [SS3003CH-TL-E](#) [STPS30S45CW](#) [PDS3100Q-7](#) [GA01SHT18](#) [CRS10I30A\(Te85L,QM\)](#) [MBR1240MFST1G](#) [MBRB30H30CT-1G](#) [BAS28E6433HTMA1](#) [BAS 70-02L E6327](#) [HSB123JTR-E](#) [JANTX1N5712-1](#) [VS-STPS40L45CW-N3](#) [DD350N12K](#) [SB007-03C-TB-E](#) [SB10015M-TL-E](#) [SB1003M3-TL-E](#) [SK110-LTP](#)