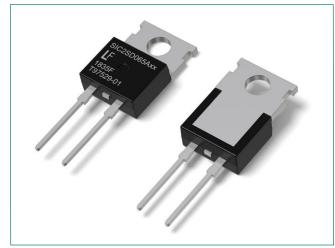
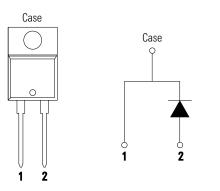
LSIC2SD065A08A 650 V, 8 A SiC Schottky Barrier Diode

HF Rohs 🗭



*Image for reference only, for details refer to Dimensions-Package.

Circuit Diagram TO-220-2L



Description

This series of silicon carbide (SiC) Schottky diodes has negligible reverse recovery current, high surge capability, and a maximum operating junction temperature of 175 °C. These diodes series are ideal for applications where improvements in efficiency, reliability, and thermal management are desired.

Features

- AEC-Q101 qualified
- Positive temperature coefficient for safe operation and ease of paralleling
- 175 °C maximum operating junction temperature
- Excellent surge capability
- Extremely fast, temperature-independent switching behavior
- Dramatically reduced switching losses compared to Si bipolar diodes

Applications

- Boost diodes in PFC or DC/DC stages
- Switch-mode power supplies
- Solar inverters
- Industrial motor drives
- EV charging stations
- Uninterruptible power supplies

Environmental

- Littelfuse "RoHS" logo = RoHS RoHS conform
- Littelfuse "HF" logo =**HF** Halogen Free
- Littelfuse "Pb-free" logo
 Pb-free lead plating

Maximum Ratings

Characteristics Symbol		Conditions	Value	Unit	
Repetitive Peak Reverse Voltage	V _{RRM}	-	650	V	
DC Blocking Voltage	V _R	T _J = 25 °C	650	V	
Continuous Forward Current		$T_c = 25 \ ^{\circ}C$	23	A	
	I _F	T _c = 135 °C	10.7		
		T _c = 150 °C	8		
Non-Repetitive Forward Surge Current	I _{FSM}	I_{FSM} $T_{c} = 25 \text{ °C}, T_{p} = 10 \text{ ms}, \text{ Half sine pulse}$		A	
Power Dissipation	P	$T_c = 25 \text{ °C}$	88	10/	
	P _{Tot}	T _c = 110 °C	38	A A W C C	
Operating Junction Temperature	T	-	-55 to 175	°C	
Storage Temperature	T _{stg}	-	-55 to 150	°C	
Soldering Temperature	T _{SOLD}	-	260	°C	

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GEN2 SiC Schottky Diode LSIC2SD065A08A, 650V, 8A, T0-220-2L

	-	
Electrical Unaracteristics (υ,	=25 °C unless otherwise specified)

Characteristics Svm	Symbol	Conditions	Value			Unit	
Characteristics Symbol		Conditions	Min.	Тур.	Max.	Onit	
Forward Voltage V _F		I _F = 8 A, T _J = 25 °C	-	1.5	1.8		
	V _F	I _F = 8 A, T _J = 175 °C	-	1.85	-	V	
Reverse Current I _R		$V_{_{ m R}} = 650 \text{ V}$, $T_{_{ m J}} = 25 \ ^{\circ}\text{C}$	-	<1	50		
	R	$V_{_{ m R}} = 650 \text{ V}$, $T_{_{ m J}} = 175 \text{ °C}$	-	15	-	μΑ	
Total Capacitance C		$V_{_{\mathrm{R}}} = 1 \text{ V}, \text{ f} = 1 \text{ MHz}$	-	415	-		
	$V_{_{\mathrm{R}}}$ = 200 V, f = 1 MHz	-	56	-	pF		
		$V_{_{ m R}}$ = 400 V, f = 1 MHz	-	41	-		
Total Capacitive Charge	Q _c	$V_{R} = 400 \text{ V}, Q_{c} = \int C(V) dV$	-	29	-	nC	

Thormal	Characteristics
merman	Characteristics

Characteristics	Symbol	Value	Unit
Thermal Resistance	R _{eJC}	1.7	°C/W

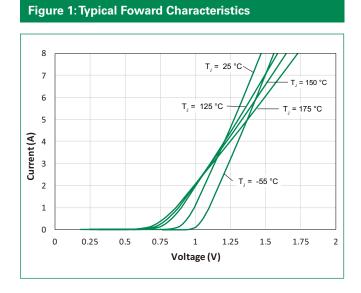
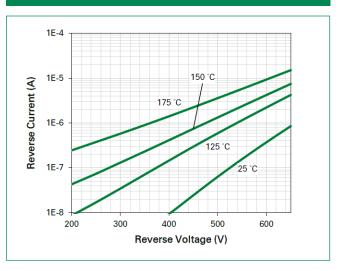


Figure 2: Typical Reverse Characteristics



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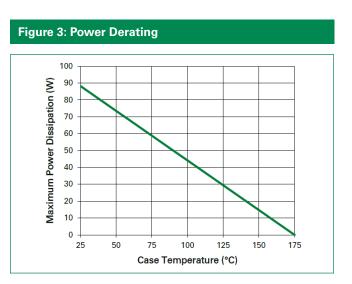


Figure 5: Capacitance vs. Reverse Voltage

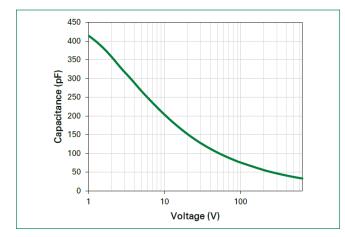


Figure 7: Stored Energy vs. Reverse Voltage

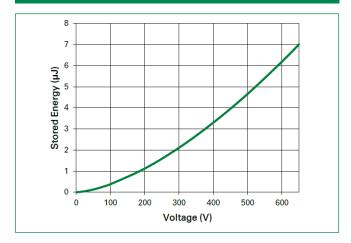


Figure 4: Current Derating

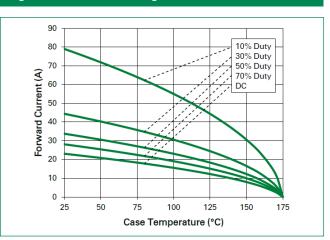


Figure 6: Capacitive Charge vs. Reverse Voltage

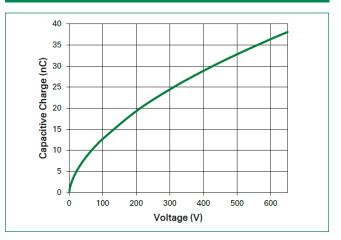
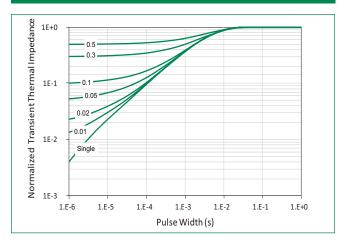


Figure 8: Transient Thermal Impedance

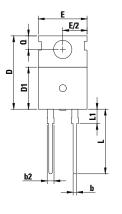


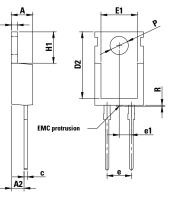
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GEN2 SiC Schottky Diode LSIC2SD065A08A, 650V, 8A, TO-220-2L

Dimensions-Package TO-220-2L

A1



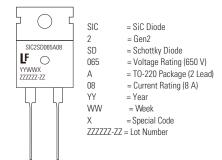


Recommended Hole Pattern



Ormalial		Millimeters	
Symbol	Min	Nom	Max
Α	4.30	4.45	4.70
A1	1.14	1.27	1.40
A2	2.20	-	2.74
b	0.69	-	0.90
b2	1.17	-	1.62
С	0.36	-	0.60
D	14.90	-	15.90
D1	8.62	-	9.40
D2	12.50	-	12.95
E	9.70	10.18	10.36
E1	7.57	7.61	8.30
e1	-	2.54	-
е	5.03	5.08	5.13
H1	6.30	6.55	6.80
L	12.88	13.50	14.00
L1	2.39	-	3.25
øP	3.50	3.84	3.96
Q	2.65	-	3.05
R	-	-	0.25

Part Numbering and Marking System



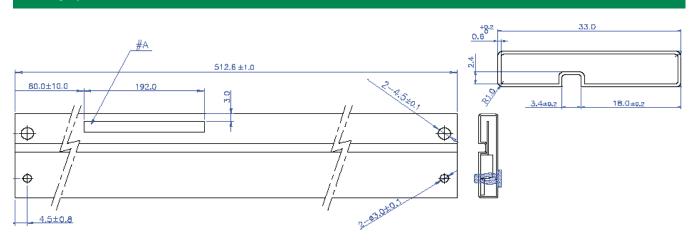
Packing Options Part Number Marking Packing Mode M.O.Q

Part Number	Marking	Packing Mode	M.O.Q
LSIC2SD065A08A	SIC2SD065A08	Tube(50pcs)	1000



GEN2 SiC Schottky Diode LSIC2SD065A08A, 650V, 8A, TO-220-2L

Packing Specification (Tube for TO-220-2L)



NOTE]

- TUBE - MATERIAL : PVC / PET (WITH ANTISTATIC COATING)
- COLOR : TRANSPARENCY, RED, YELLO
- MARKING #A : BLACK COLOR, LETTER STYLE : Arial
- Tube Surface Resistance $\div10^{6}{\sim}10^{11}\,\Omega\,/\,\text{square}$
- ESD (Electro Static Discharge) : less than 100 [volts], 6 Months
- CAMBAR : 1.5 MAX
- $\ensuremath{\mathsf{PIN}}$ COLOR : GREEN (ONE PIN MUST BE INSERTED IN LEFT-SIDE OF " $\ensuremath{\mathsf{-ANTISTATIC}}\xspace^{-1}$ and another PIN IS FREE.)

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