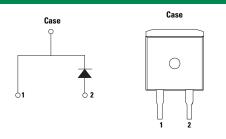
LSIC2SD065D16A 650 V, 16 A SiC Schottky Barrier Diode



Circuit Diagram TO-263-2L



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.

HF

• Excellent surge capability

temperature-independent

switching behavior

• Dramatically reduced

compared to Si bipolar

• Industrial motor drives

• EV charging stations

switching losses

diodes

• Solar inverters

Extremely fast,

RoHS 🔗

Features

- AEC-Q101 qualified
- Positive temperature coefficient for safe operation and ease of paralleling
- 175 °C maximum operating junction temperature

Applications

- Boost diodes in PFC or DC/DC stages
- Switch-mode power supplies
- Uninterruptible power supplies

Environmental

- Littelfuse "RoHS" logo = RoHS RoHS conform
- Littelfuse "HF" logo = **HF** Halogen Free
- Littelfuse "Pb-free" logo = 100 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 °C	38	A	
	I _F	T _c = 135 °C	17.2		
		T _c = 140 °C	16		
Non-Repetitive Forward Surge Current	I _{FSM}	$T_c = 25 \text{ °C}, T_p = 10 \text{ ms}, \text{ Half sine pulse}$	70	A	
Power Dissipation	D	$T_c = 25 \text{ °C}$	125	10/	
	P _{Tot}	T _c = 110 °C	54	W	
Operating Junction Temperature	TJ	-	-55 to 175	°C	
Storage Temperature	T _{stg}	-	-55 to 150	°C	
Soldering Temperature	T _{SOLD}	-	260	°C	

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Characteristics		Conditions		Value		
	Symbol		Min.	Тур.	Max.	Unit
Forward Voltage V _F		I _F = 16 A, Τ _J = 25 °C	-	1.5	1.8	V
	V _F	I _F = 16 A, Τ _J = 175 °C	-	1.85	-	V
Reverse Current		V _B = 650 V , T _J = 25 °C	-	<1	50	μA
	R	V _R = 650 V , T _J = 175 °C	-	55	-	
Total Capacitance		$V_{_{\mathrm{H}}} = 1 \text{ V}, \text{ f} = 1 \text{ MHz}$	-	730	-	
	C	V _R = 200 V, f = 1 MHz	-	92	-	pF
		V _R = 400 V, f = 1 MHz	-	66	-	
otal Capacitive Charge	Q _c	$V_{R} = 400 V_{r} Q_{C} = \int_{0}^{V_{R}} C(V) dV$	-	48	-	nC

Thermal Characteristics						
Characteristics	Symbol	Value	Unit			
Thermal Resistance	R _{JC}	1.2	°C/W			

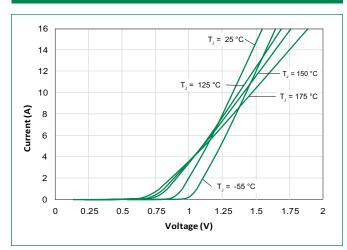


Figure 1: Typical Foward Characteristics

Figure 2: Typical Reverse Characteristics

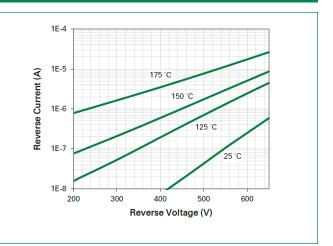


Figure 3: Power Derating

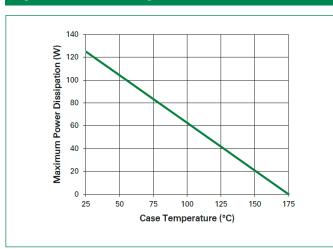
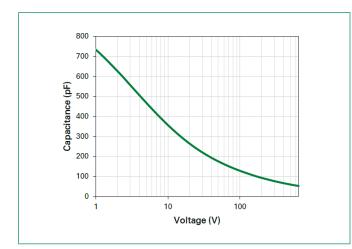
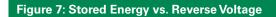


Figure 5: Capacitance vs. Reverse Voltage





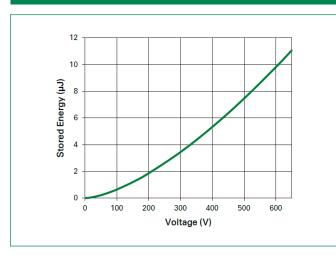


Figure 4: Current Derating

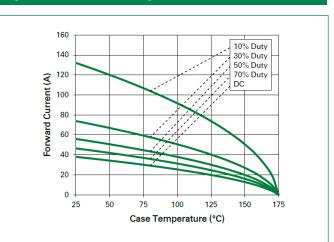


Figure 6: Capacitive Charge vs. Reverse Voltage

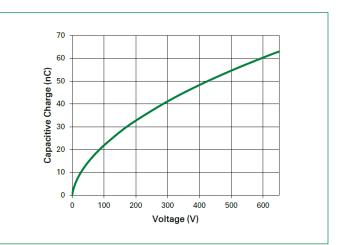
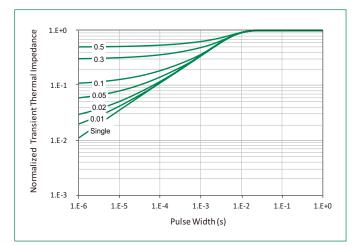
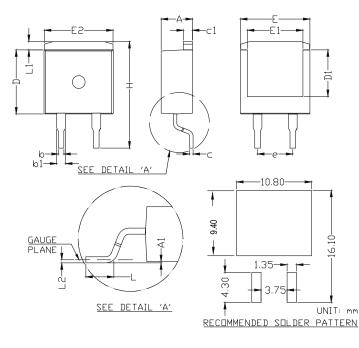


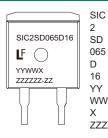
Figure 8: Transient Thermal Impedance



Dimensions-Package TO-263-2L



Part N	lumbering	g and Marki	na System
ΓαιιΝ	unnbenni	y anu iviaiki	ing System



- = SiC Diode = Gen2
- = Schottky Diode
- = Voltage Rating (650 V)
- = TO-263 Package (2 Lead) = Current Rating (16 A)
- = Year
- = Week
- = Special Code ZZZZZ-ZZ = Lot Number

Symbol	Millimeters			
Symbol	Min	Nom	Max	
А	4.30	4.50	4.70	
A1	0.00	-	0.25	
b	0.70	0.80	0.90	
b1	1.17	1.27	1.37	
С	0.46	0.50	0.60	
c1	1.25	1.30	1.40	
D	9.00	9.20	9.40	
D1	6.50	6.70	6.90	
E	9.80	10.00	10.20	
E1	7.80	8.00	8.20	
E2	9.70	9.90	10.10	
е	5.08 BSC			
Н	15.00	15.30	15.60	
L	2.00	2.30	2.60	
L1	1.00	1.20	1.40	
L2	0.254 BSC			

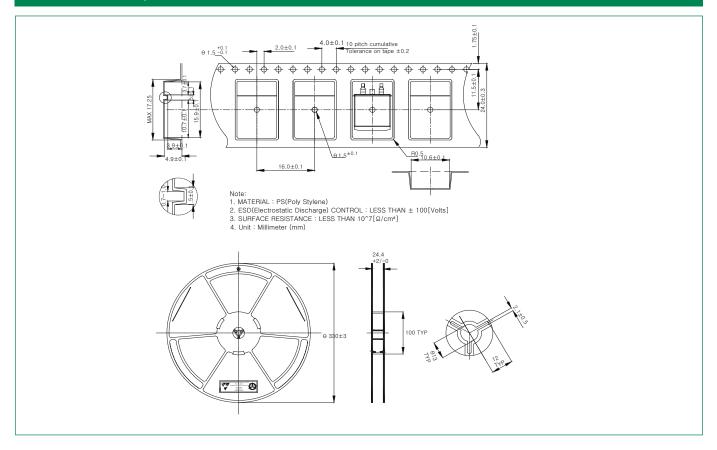
Packing Option

Part Number	Marking	Packing Mode	M.O.Q
LSIC2SD065D16A	SIC2SD065D16	Tape and Reel	800



GEN2 SiC Schottky Diode LSIC2SD065D16A, 650 V, 16 A, TO-263-2L (D2PAK)

TO-263 Carrier Reel Specifications



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