LSC08065DW

SILICON CARBIDE SCHOTTKY DIODE

REVERSE VOLTAGE – 650 Volts
FORWARD CURRENT – 8 Amperes

FEATURES

- Positive temperature coefficient for save operation and easy of paralleling
- 175℃ maximum operating junction temperature
- Extremely fast switching not dependent on temperature
- Qualified according to AEC-Q101 Rev_D
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

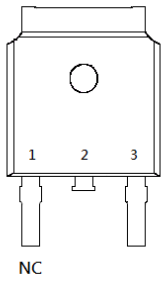
APPLICATION

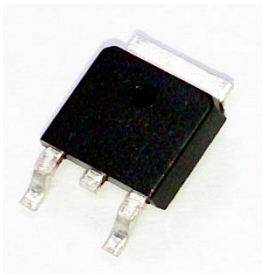
- Switch mode power supplies
- Power factor corrections

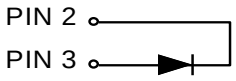
MECHANICAL DATA

- Package:TO-252 molded plastic
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Copper Leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208 ㉃
- Weight: 0.989 grams (Approximate)
- Marking Code: LSC08065DW

DPAK







MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER		SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	650	V
Maximum DC blocking voltage		V_{DC}	650	V
Maximum average rectified output current	@T_C=120°C	$I_{(AV)}$	8	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load		I_{FSM}	48	A
Operating junction and storage temperature range		T_J, T_{STG}	-55 ~ +175	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	I_F=8A	T_J=25°C T_J=175°C	V_F	-- 2.19	1.70 2.25	V
Reverse leakage current	V_R=650V	T_J=25°C T_J=175°C	I_R	-- 10.26	230 700	μA

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER		SYMBOL	TYP	UNIT
Total Capacitive Charge	V_R=400V,dI/dt=250A/μS, I_F=8A	Q_C	17	nC
Typical junction capacitance (Note 5)		C_J	250	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	$RthJ_C$ $RthJ_L$	3 3	°C/W

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300μs pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied voltage of 1.0V DC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on copper plate Heatsink (100mm x 100mm x 1.9mm & 40mm x 40mm x 1.4mm).

RATING AND CHARACTERISTIC CURVES
LSC08065DW

FIG.1 FORWARD CURRENT DERATING CURVE

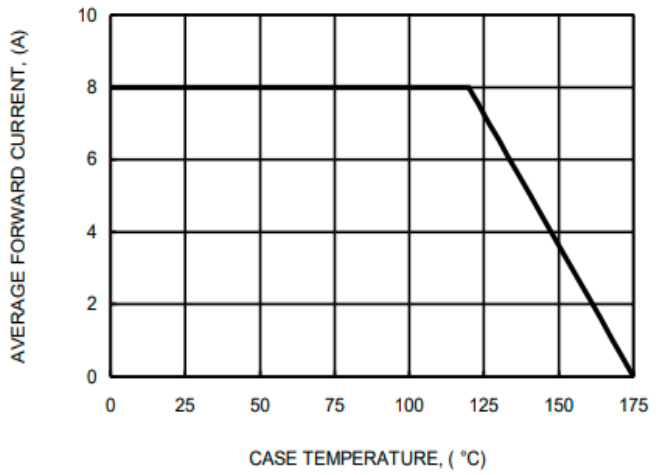


FIG.2 NON-REPETITIVE PEAK SURGE FORWARD CURRENT

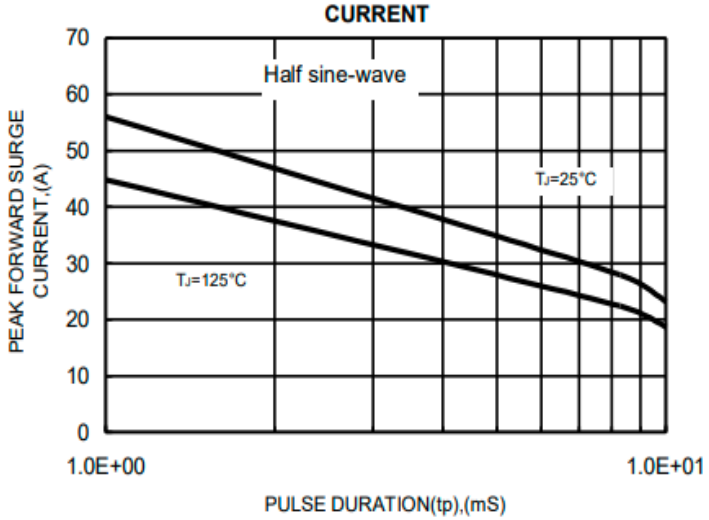


FIG.3 TYPICAL FORWARD CHARACTERISTICS

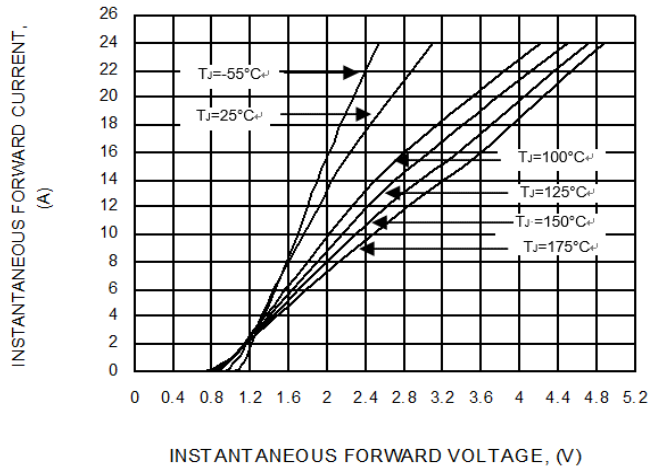


FIG.4 TYPICAL JUNCTION CAPACITANCE

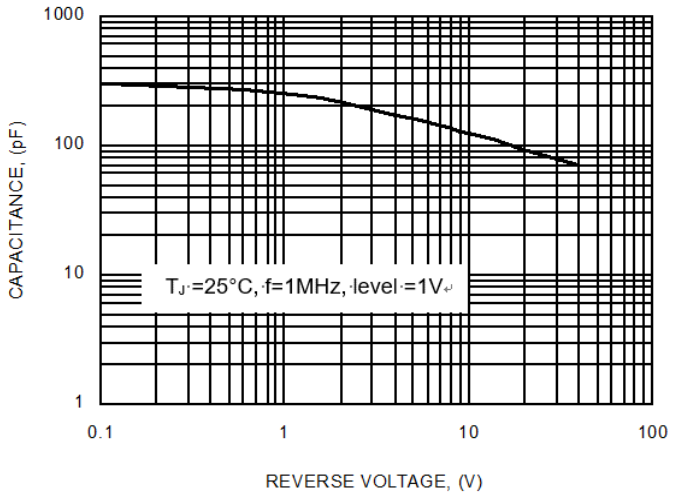


FIG.5 TYPICAL REVERSE CHARACTERISTICS

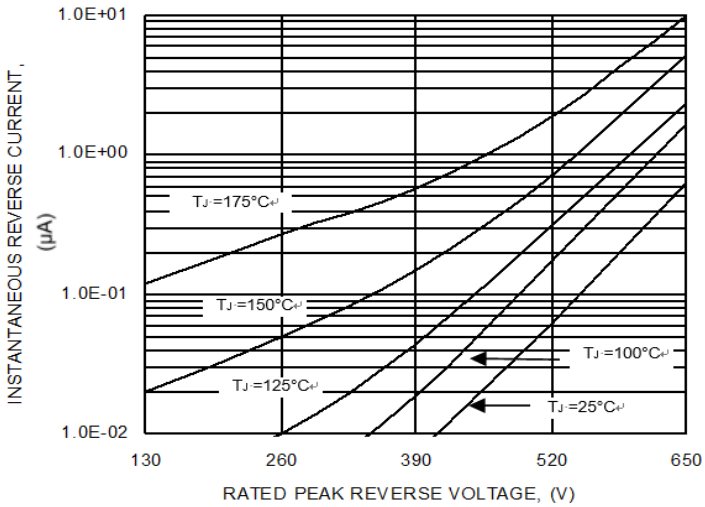
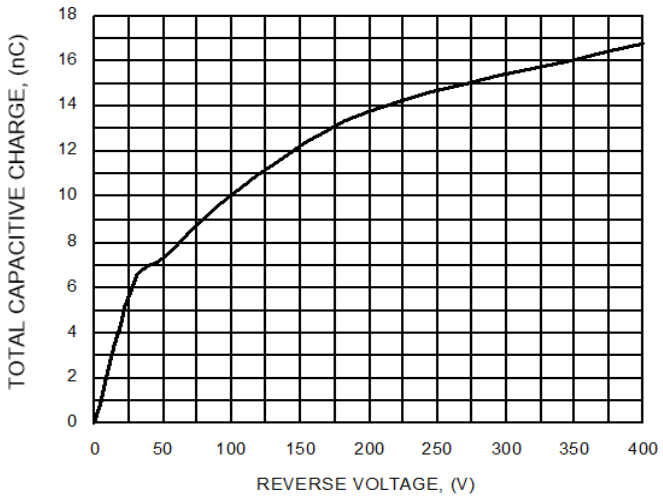
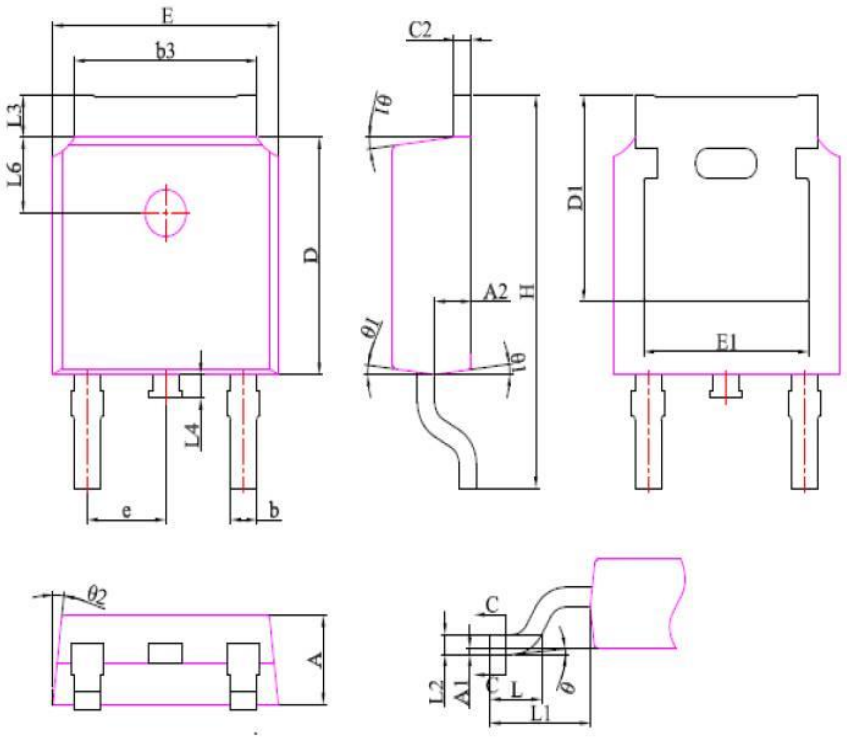


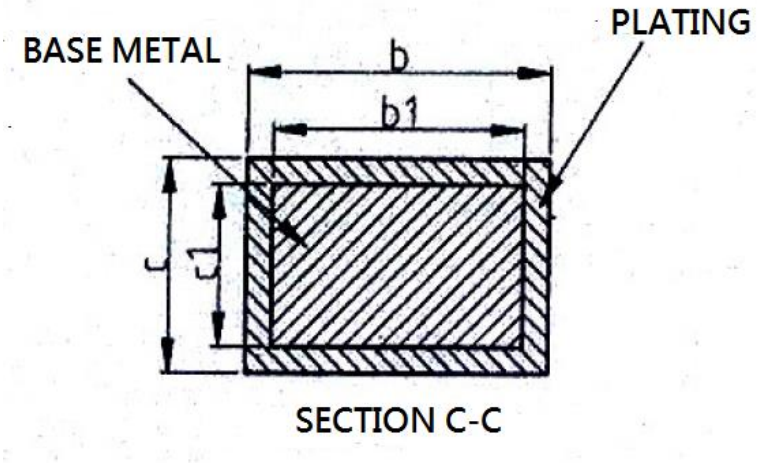
FIG.6 TYPICAL CAPACITIVE CHARGES



Package Dimension:



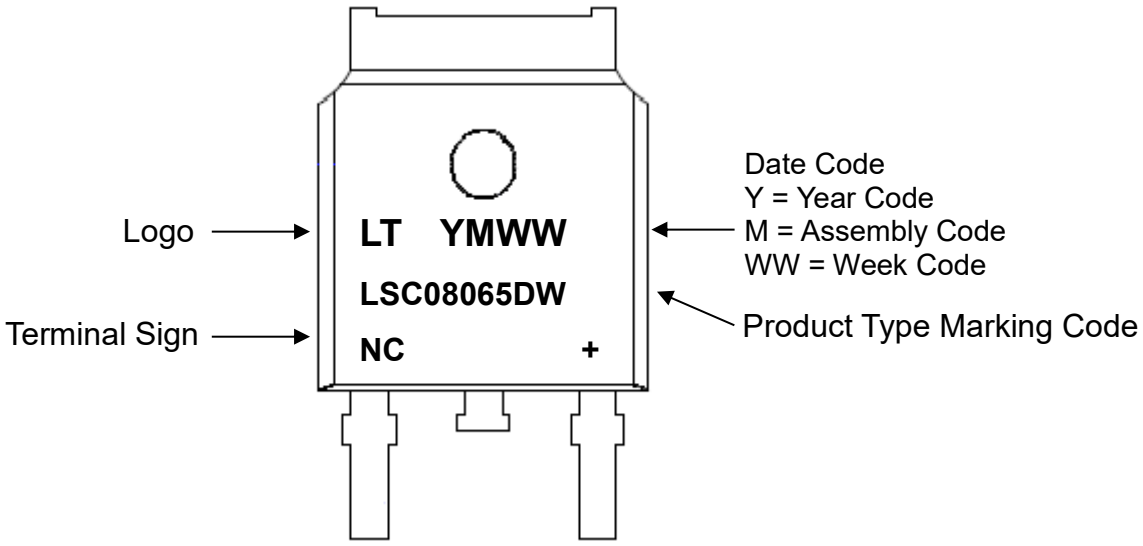
TO-252			
DIM	MIN	TYP	MAX
A	2.20	2.30	2.40
A1	0.00	--	0.15
A2	0.97	1.07	1.17
b	0.68	0.78	0.90
b1	0.66	0.76	0.88
b3	5.20	5.33	5.50
C	0.43	0.53	0.63
C1	0.41	0.51	0.61
C2	0.43	0.53	0.63
D	5.98	6.10	6.22
D1		5.30 REF	
E	6.40	6.60	6.80
E1	4.63	4.83	5.03
e		2.286 REF	
H	9.40	10.10	10.50
L	1.38	1.50	1.75
L1		2.90 REF	
L2		0.51 BSC	
L3	0.88	--	1.28
L4	--	--	1.00
L6	1.65	1.80	1.95
θ	0°	--	8°
θ1	5°	7°	9°
θ2	5°	7°	9°
All dimension in millimeter			



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
LSC08065DW	DPAK	2500pcs	Tape & Reel

Marking Information:



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