

**SILICON CARBIDE SCHOTTKY DIODE**
**REVERSE VOLTAGE** – 650 Volts  
**FORWARD CURRENT** – 8 Amperes

**FEATURES**

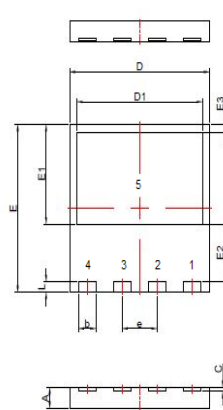
- Positive temperature coefficient for safe operation and easy of paralleling
- 175°C maximum operating junction temperature
- Extremely fast switching not dependent on temperature
- Essentially no reverse or forward recovery

**APPLICATION**

- Power converters
- Switching-mode power supplies
- Power Factor correction modules

**MECHANICAL DATA**

- Case: DFN8080 molded plastic
- Case Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free".
- Moisture Sensitivity Level 3 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.214 grams (Approximate)
- Marking code: LSC08065Q8

**DFN8080**


DFN8080		
DIM	MIN	MAX
A	0.90	1.10
b	0.90	1.10
b1	0.00	0.05
C	0.20 REF	
D	7.90	8.10
D1	7.10	7.30
E	7.90	8.10
E1	4.65	4.85
E2	2.65	2.85
E3	0.30	0.50
e	2.0 BSC	
L	0.40	0.60
All d mension in millimeter		

PIN 3,4 PIN 5

**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	$I_{(AV)}$	8	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	$I_{FSM}$	38	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 (Note1)	$I_F=8A$ $T_J=25^{\circ}C$ $T_J=175^{\circ}C$	$V_F$	-- 2.04	1.70 2.25	V
Reverse Leakage current	$V_R=650V$ $T_J=25^{\circ}C$ $T_J=175^{\circ}C$	$I_R$	-- 6.2	230 550	uA
Typical junction capacitance (Note 2)		$C_J$	270		pF

**DYNAMIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	UNIT
Total capacitive charge	$V_R=400V, dI/dt=250A/us, I_F=8A$	$Q_C$	19	nC

**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 3,4)	$R_{thJC}$	4	°C/W
	$R_{thJL}$	5	

**Note :**

- (1) 300us pulse width, 2% duty cycle.
- (2) Measured at 1.0MHz and applied voltage of 1.0V DC.
- (3) Thermal resistance test performed in accordance with JESD-51.
- (4) The unit mounted on copper heatsink (75mm x 75mm x 2.0mm) & copper heatsink (50mm x 50mm x 1.6mm)

REV.-7, Jan-2019, KTGR01

# RATING AND CHARACTERISTIC CURVES LSC08065Q8



FIG.1 FORWARD CURRENT DERATING CURVE

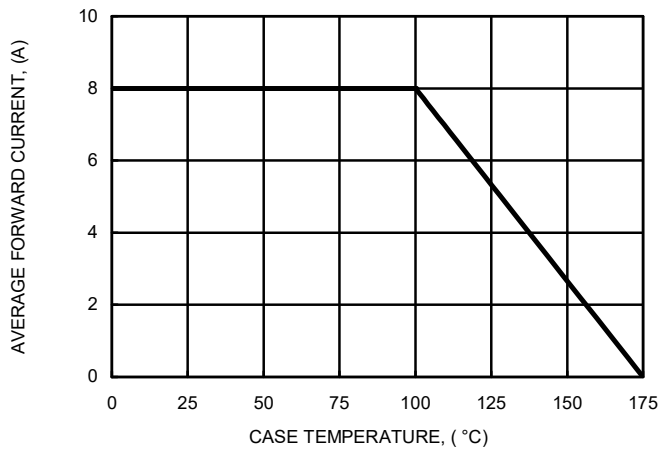


FIG.2 NON-REPETITIVE PEAK SURGE FORWARD CURRENT

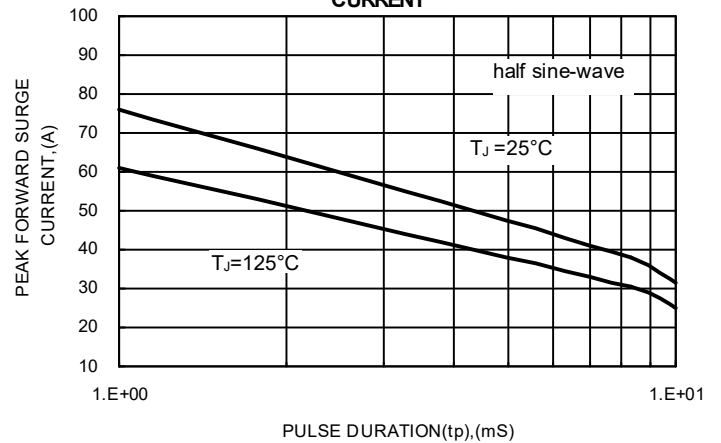


FIG.3 TYPICAL FORWARD CHARACTERISTICS

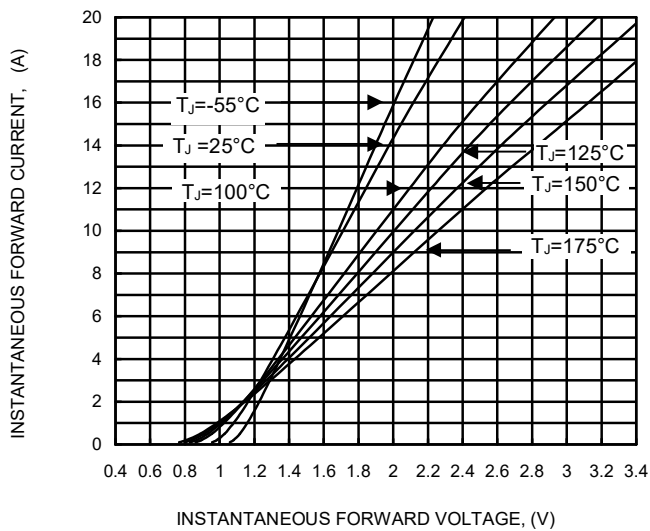


FIG.4 TYPICAL JUNCTION CAPACITANCE

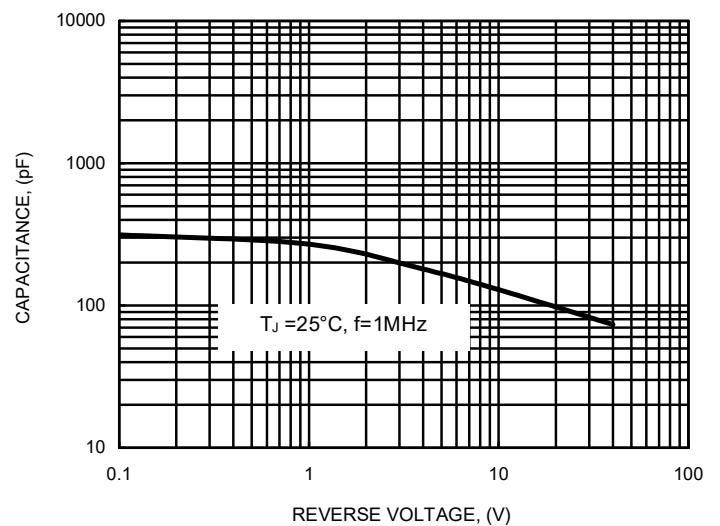


FIG.5 TYPICAL REVERSE CHARACTERISTICS

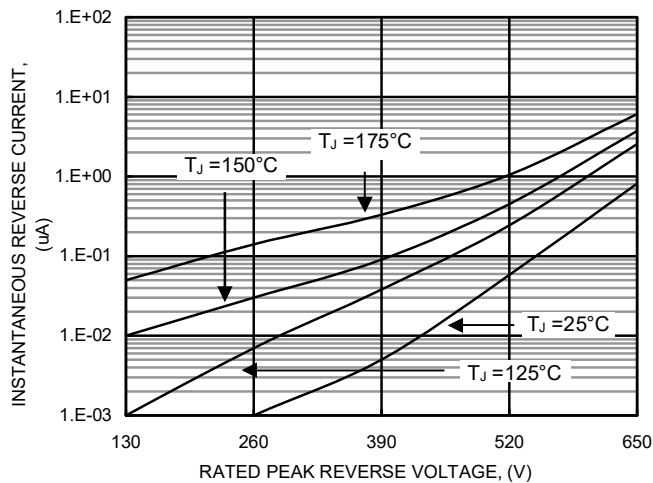
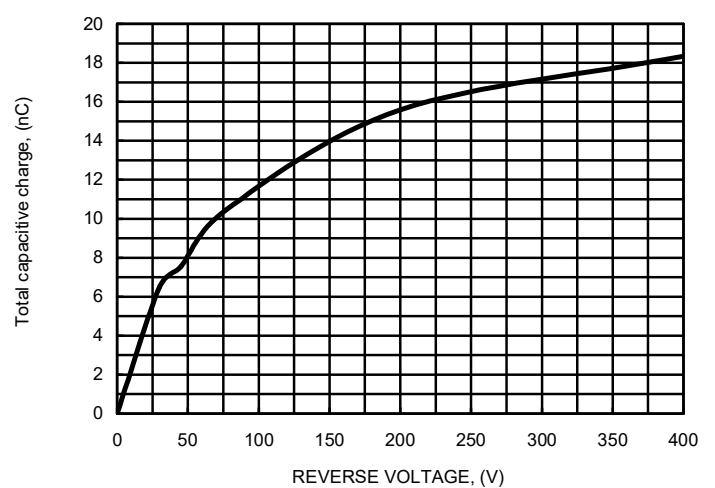
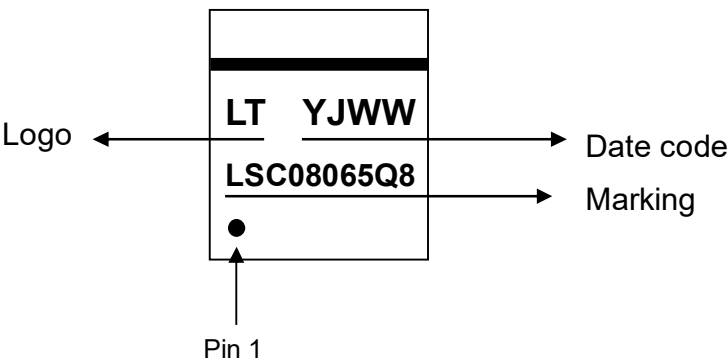


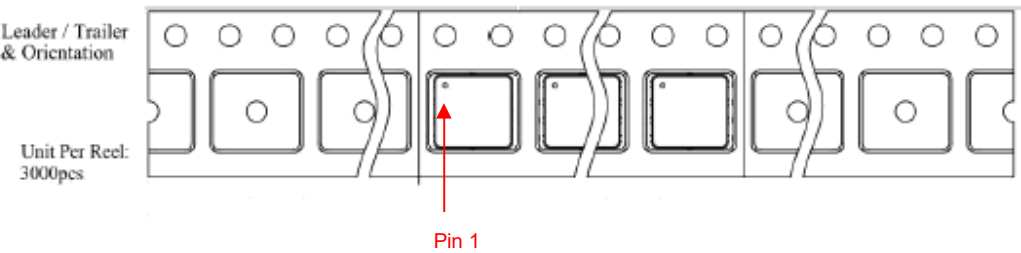
FIG.6 TYPICAL CAPACITIVE CHARGES



Marking Information :



Packaging Information:



DEVICE	Q'TY/REEL (PCS)	REEL DIA. (mm)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)	BOX SIZE (mm)	CARTON SIZE (mm)
LSC08065Q8	2.5K	330	2.5K	25K	345x355x30	355x346x376

## **Important Notice and Disclaimer**

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.