

SILICON CARBIDE SCHOTTKY DIODE

REVERSE VOLTAGE – 650 Volts
FORWARD CURRENT – 6 Amperes

FEATURES

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

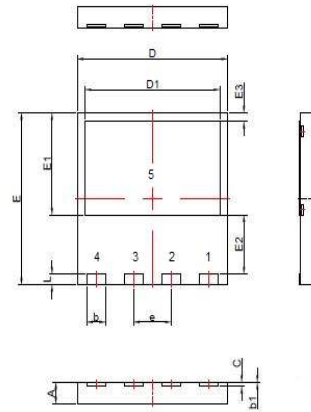
APPLICATION

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

MECHANICAL DATA

- Case: DFN8080
- Case Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Moisture Sensitivity Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.214 grams (Approximate)
- Marking code: LSC06065Q8

DFN8080



DFN8080		
DIM	MIN	MAX
A	0.90	1.10
b	0.90	1.10
b1	0	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	$I_{(AV)}$	6	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	32	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)	$I_F=6A$ $T_J=25^\circ C$ $T_J=175^\circ C$	V_F	-- 1.99	1.70 2.25	V
Leakage current	$V_R=650V$ $T_J=25^\circ C$ $T_J=175^\circ C$	I_R	-- 6.1	200 640	uA
Typical junction capacitance (Note 2)		C_J		195	pF

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	UNIT
Total Capacitive Charge	$I_F=6A, V_R=400V, di/dt= 250A/uS,$	Q_C	15	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 1.9mm)

FIG.1 FORWARD CURRENT DERATING CURVE

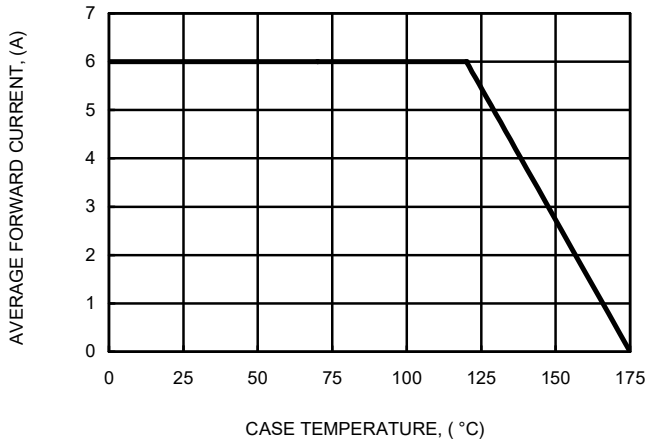


FIG.2 NON-REPETITIVE SURGE FORWARD CURRENT

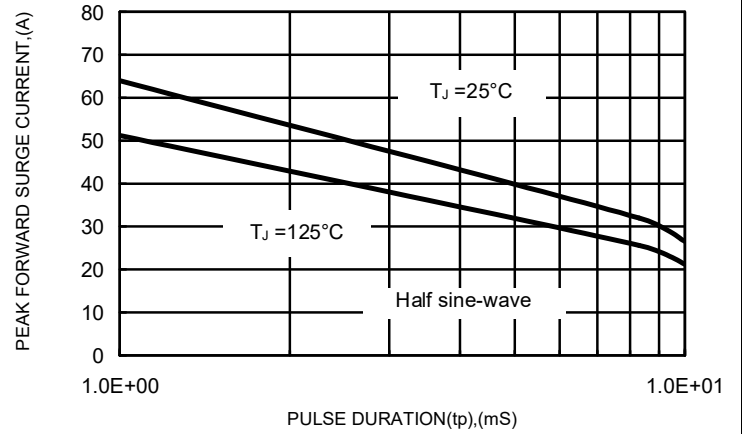


FIG.3 TYPICAL FORWARD CHARACTERISTICS

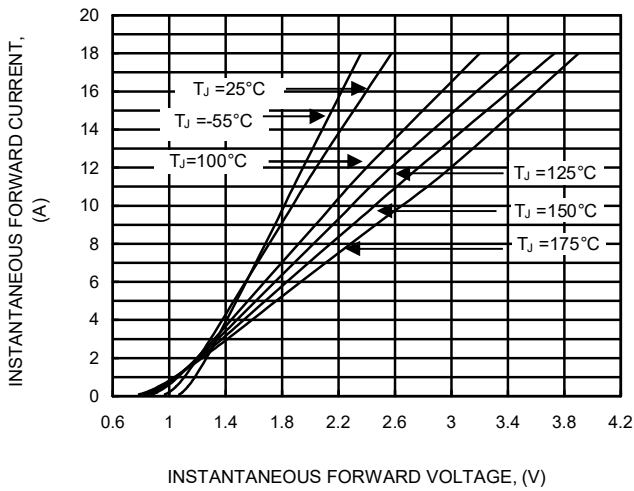


FIG.4 TYPICAL JUNCTION CAPACITANCE

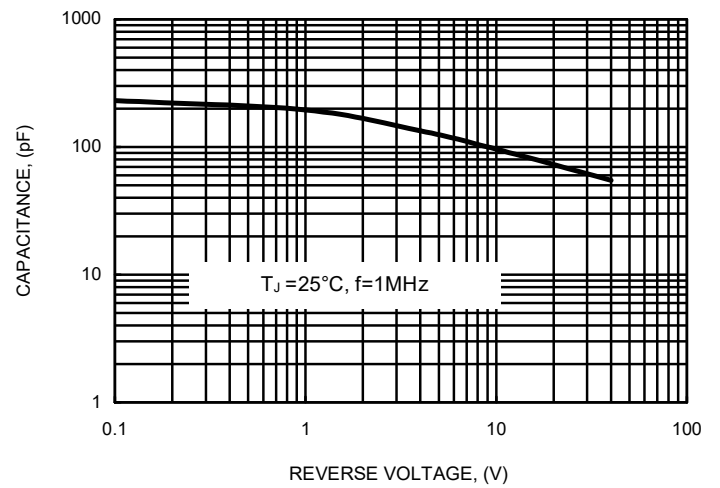


FIG.5 TYPICAL REVERSE CHARACTERISTICS

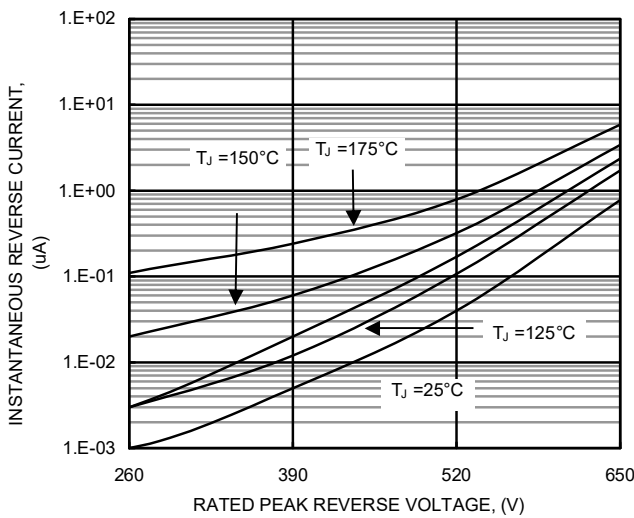
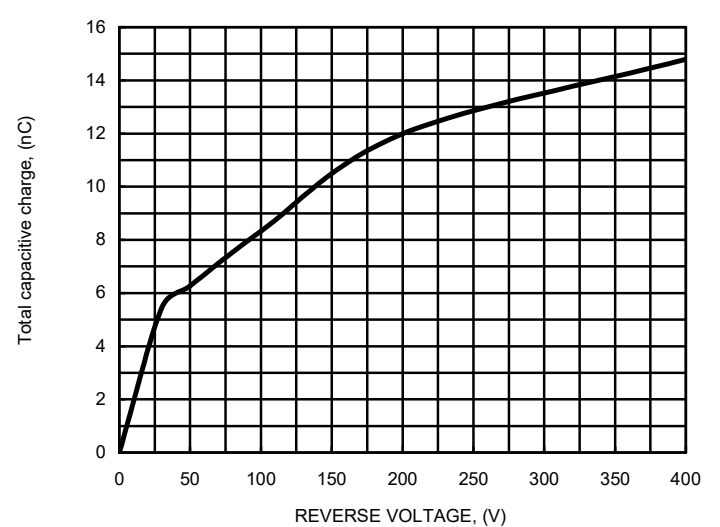
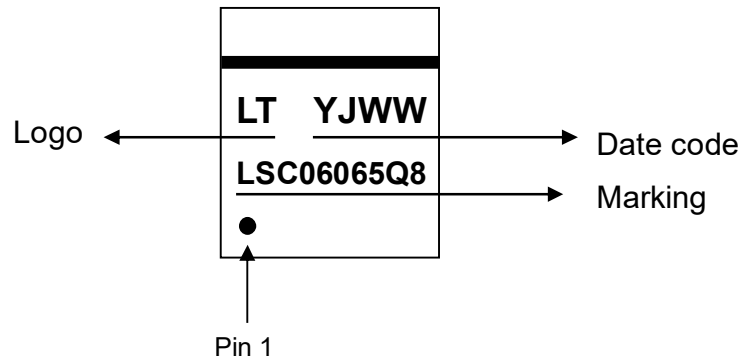


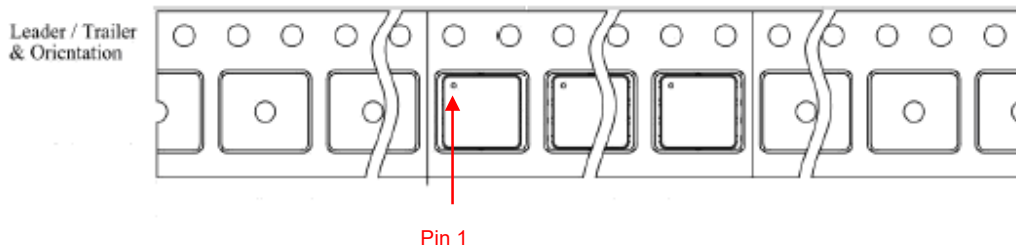
FIG.6 TYPICAL CAPACITIVE CHARGES



Marking Information :

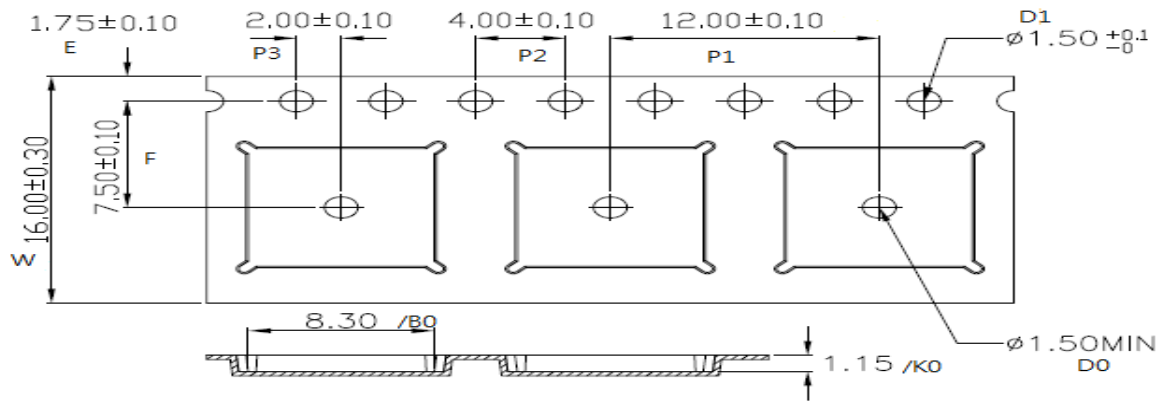


Packaging Information:

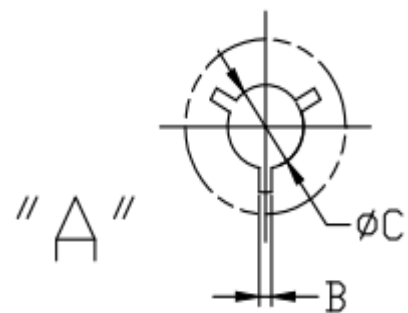
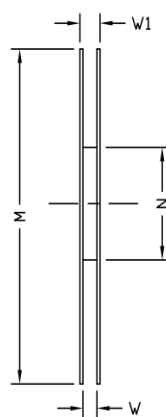
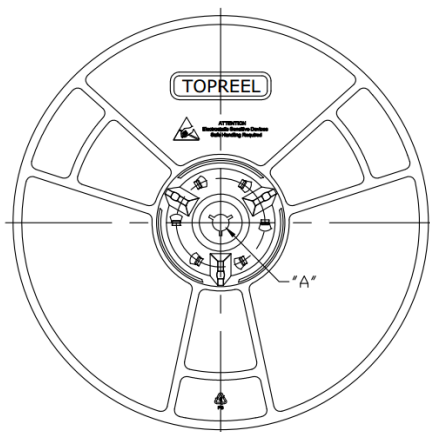


DEVICE	Q'TY/REEL (PCS)	REEL DIA. (mm)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)	BOX SIZE (mm)	CARTON SIZE (mm)
LSC06065Q8	2.5K	330	2.5K	25K	345x355x30	355x346x376

Embossed Carrier Dimensions Information:



TAPE SIZE	D0	E	P1	P2	P3	UNIT
16mm	1.50/MIN	1.75+/-0.10	12.0+/-0.10	4.0+/-0.1	2.0+/-0.10	mm
	B0	W	F	K0		
	8.3	16+/-0.30	7.5+/-0.1	1.15		



UNIT:mm

TYPE SIZE	REEL SIZE	M	N	W	W1	B	C
16mm	∅330	∅330 +/-0.50	∅102 +/-0.50	16 +/-0.50	17.4 +/-0.5	2.0 +/-0.5	∅13.11 +/-0.50

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