LITE-ON SEMICONDUCTOR

LSC10065FW

SILICON CARBIDE SCHOTTKY DIODE

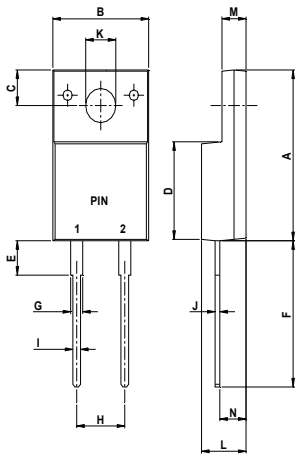
REVERSE VOLTAGE – 650 Volts
FORWARD CURRENT – 10 Amperes

FEATURES
- Positive temperature coefficient for save operation and easy of paralleling
- 175℃ maximum operating junction temperature
- Essentially no reverse or forward recovery
- Extremely fast switching not dependent on temperature
- Qualification is according to AEC-Q101 Rev_D

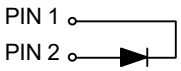
APPLICATION
- Switch mode Power Supplies
- Power Factor correction

MECHANICAL DATA
- Case: JEDEC TO-220ACFP
- Case Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.
- Lead free finish, RoHS compliant
- Weight: 1.497 grams (Approximate)
- Marking code: LSC10065FW

ITO-220AC(WB)



ITO-220AC(WB)		
DIM	MIN	MAX
A	15.33	15.62
B	10.00	10.40
C	2.91	3.21
D	8.50	8.80
E	3.30	3.90
F	13.00	13.70
G	1.15	1.70
H	4.95	5.25
I	0.50	0.80
J	0.45	0.70
K	3.00 Ø	3.30 Ø
L	4.46	4.87
M	2.48	2.80
N	2.50	2.80
All dimension in millimeter		



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=55°C	$I_{(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave Superimposed on rated load.		I_{FSM}	60	A
Single Pulse Avalanche Energy	@L=5mH	EAS	84	mJ
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=10A	T_J=25°C T_J=175°C	V_F	-- 1.88	1.70 2.25	V
Leakage current	V_R=650V	T_J=25°C T_J=175°C	I_R	-- 33.7	250 800	uA
Typical junction capacitance (Note 2)			C_J	330		pF

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	UNIT
Total Capacitive Charge	VR=400V,dI/dt= 250A/Us I_F=10A	Q_C	23	nC

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 3,4)	$RthJ_C$ $RthJ_L$	6 7	°C/W

REV.-4, Aug -2019, KTGA43

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 50mm x 50mm x 1.6mm & 200mm x 200mm x 10mm in free air condition

RATING AND CHARACTERISTIC CURVES
LSC10065FW

LITEON

FIG.1 FORWARD CURRENT DERATING CURVE

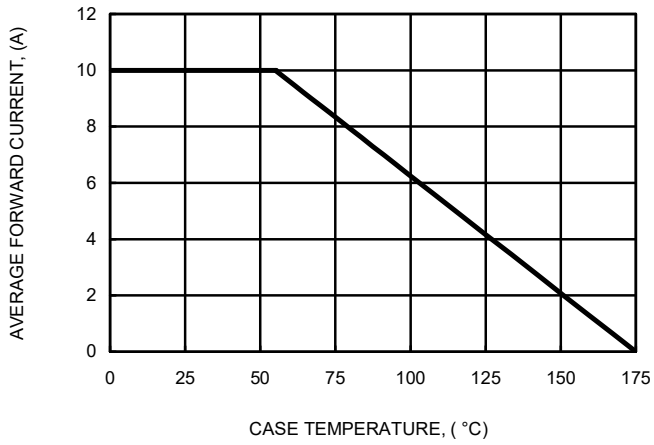


FIG.2 NON-REPETITIVE PEAK SURGE FORWARD CURRENT

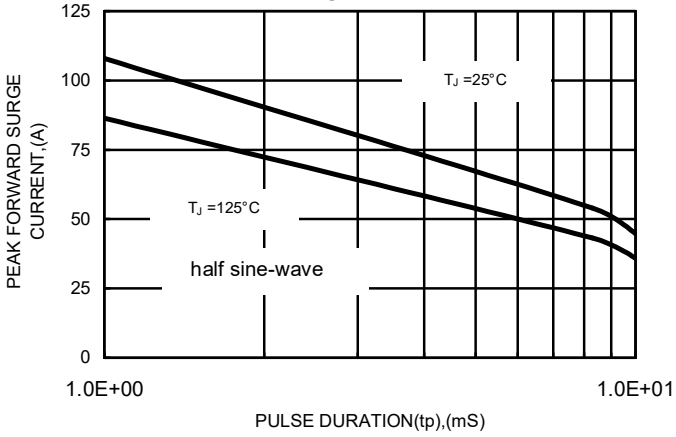


FIG.3 TYPICAL FORWARD CHARACTERISTICS

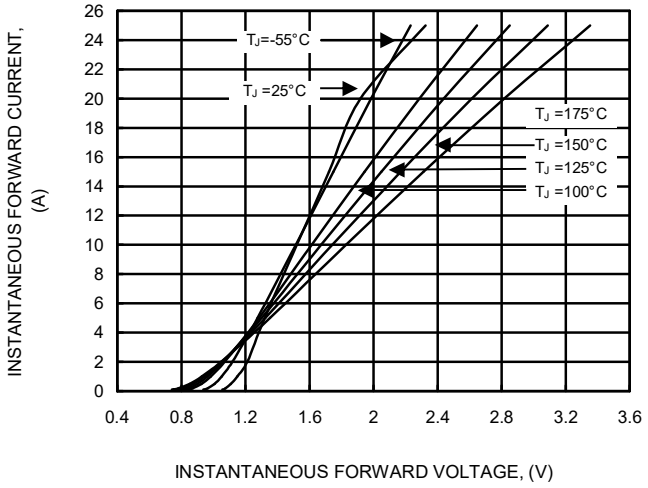


FIG.4 TYPICAL JUNCTION CAPACITANCE

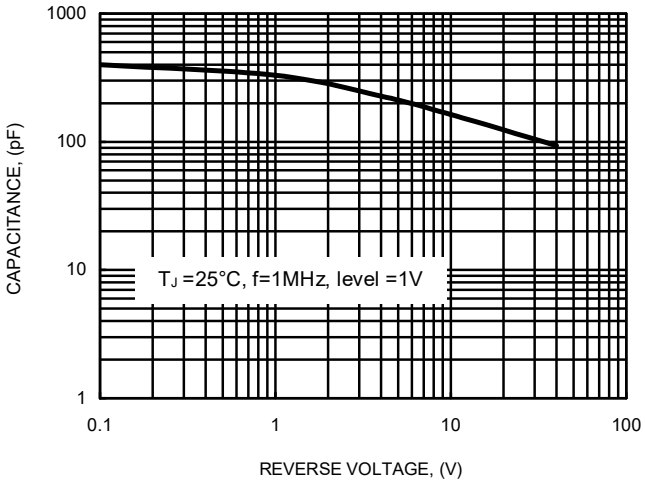


FIG.5 TYPICAL REVERSE CHARACTERISTICS

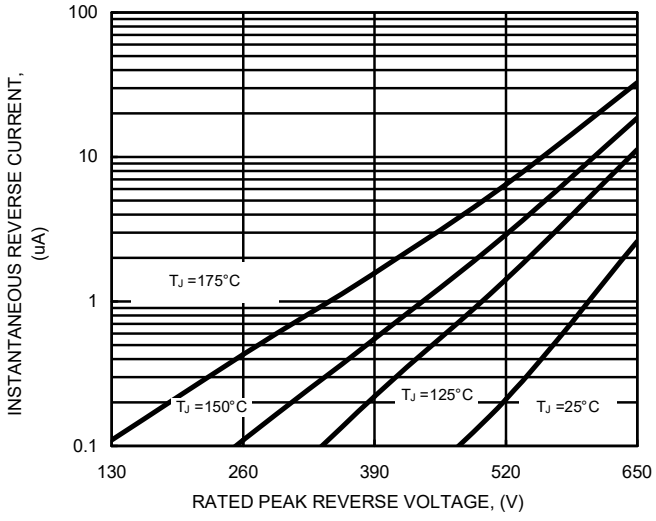
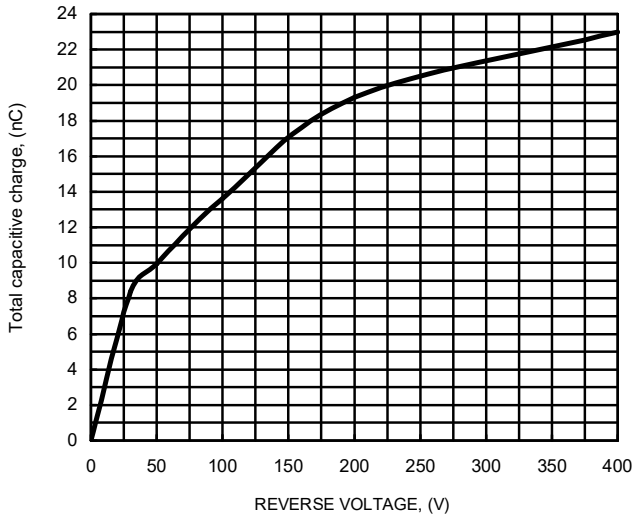


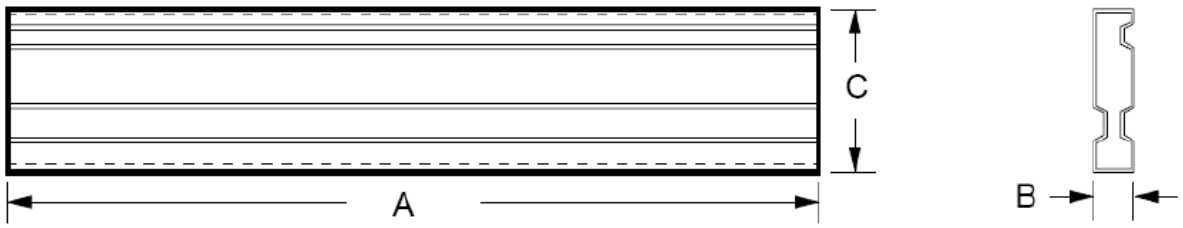
FIG.6 TYPICAL CAPACITIVE CHARGES



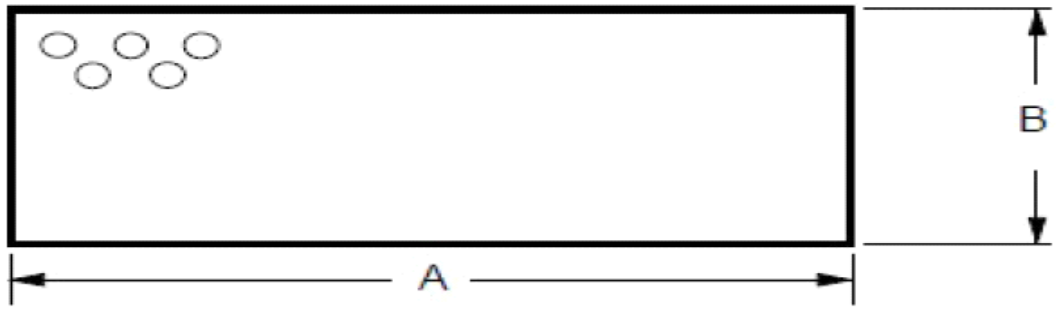
PACKAGING INFORMATION
LSC10065FW

Packaging Information:

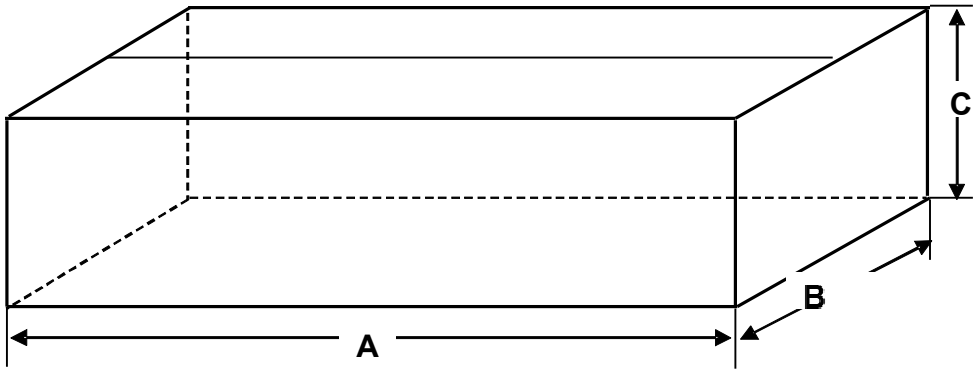
1. TUBE



2. AIR BAG



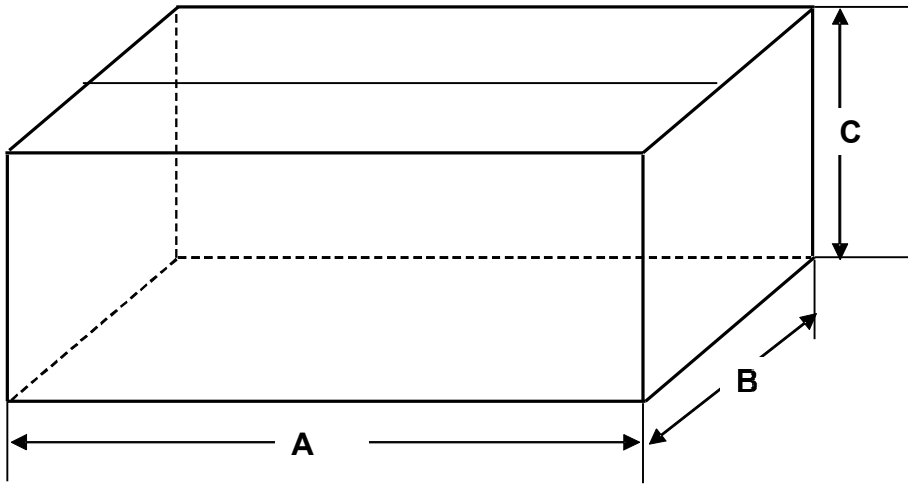
3. INNERBOX



PACKAGING INFORMATION
LSC10065FW

Packaging Information:

4. CARTON



Unit:mm

P/N	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	Q'ty/per	REMARK
TUBE	536	5.6	31.8	50	/
AIR BAG	800	550	/	/	/
INNERBOX	555	165	105	2000	40TUBE
CARTON	575	179	225	4K	2 INNER BOX

LEGAL DISCLAIMER NOTICE

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.

ALL INFORMATION ARE PROVIDED AS-IS, EVEN IT HAS QUALIFIED BY THE AEC-Q101 WHICH SATISFY INDUSTRIAL APPLICATION REQUIREMENT, EXCEPT AS EXPRESSLY STATED IN THIS DATA SHEET IS APPLIED FOR AUTOMOTIVE GRADE, LSC MAKE NO WARRANTIES, REPRESENTATION OR GUARANTEE, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, REGARDING ANY MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE LSC TECHNOLOGY.

LSC DOES NOT ASSUME ANY LIABILITY OR COMPENSATION FOR ANY APPLICATION ASSISTANCE OR CUSTOMER PRODUCT DESIGN, AND MAKE NO WARRANTY 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.