A Product Line of Diodes Incorporated | LITE-ON SEMICONDUCTOR

LSC02120FW

SILICON CARBIDE SCHOTTKY DIODE

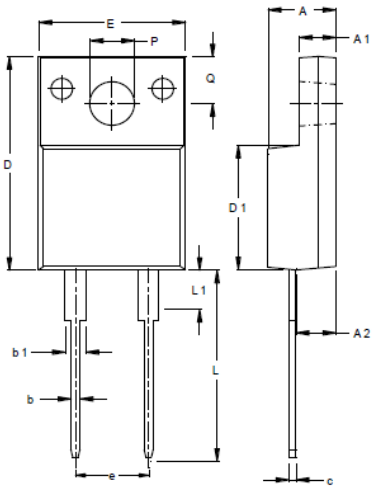
REVERSE VOLTAGE – 1200 Volts
FORWARD CURRENT – 2 Amperes

FEATURES
- Positive temperature coefficient for safe operation and Easy of paralleling
- Essentially no reverse or forward recovery
- Extremely fast switching not dependent on temperature
- Qualification is 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: JEDEC TO-220ACFP
- Package Material: "Green" molding compound, UL flammability classification 94V-0,"Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 1.497 grams (Approximate)
- Marking code: LSC02120FW

ITO220AC (Type WX)



ITO220AC (Type WX)		
Dim	Min	Max
A	4.46	4.87
A1	2.48	2.80
A2	2.50	2.80
b	0.50	0.80
b1	1.15	1.70
c	0.45	0.70
D	14.95	15.95
D1	8.50	8.80
E	10.00	10.40
e	4.95	5.25
L	13.00	13.70
L1	3.30	3.90
Q	2.76	3.36
PØ	3.00	3.30
All Dimensions in mm		

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}	1200	V
Maximum DC blocking voltage		V_{DC}	1200	V
Maximum Average rectified output current	@T_C=100°C	$I_{(AV)}$	2	A
Peak forward surge current 10ms single half sine-wave superimposed on rated load.		I_{FSM}	24	A
Operating junction and Storage Temperature range		T_J , T_{STG}	-55 to +175	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	I_F=2A	T_J=25°C T_J=150°C	V_F	-- 1.8	1.6 2.3	V
Leakage current	V_R=1200V	T_J=25°C T_J=150°C	I_R	-- 100	128 --	uA
Typical junction capacitance (Note 5)			C_J	105		pF

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	UNIT
Total Capacitive Charge	VR=400V,dI/dt= 200A/uS, I_F=2A	Qc	10	nC

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	$RthJ_C$ $RthJ_L$	16 18	°C/W

Note :
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. 300us 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 Aluminum substrate heatsink (15mm x 24mm x 1.7mm).

RATING AND CHARACTERISTIC CURVES
LSC02120FW

FIG.1 FORWARD CURRENT DERATING CURVE

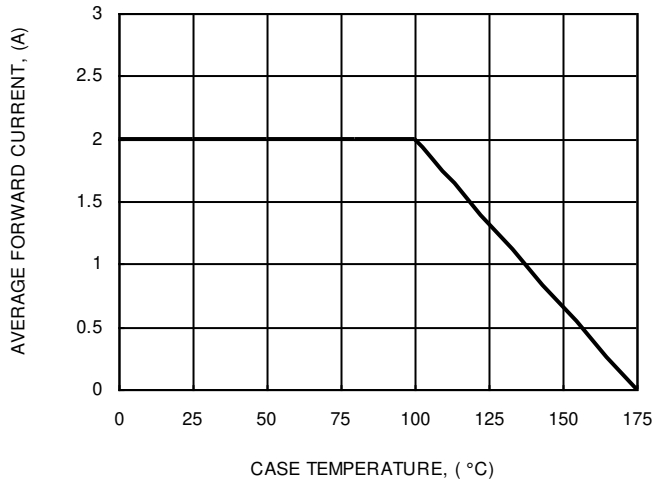


FIG.2 NON-REPETITIVE PEAK SURGE FORWARD CURRENT

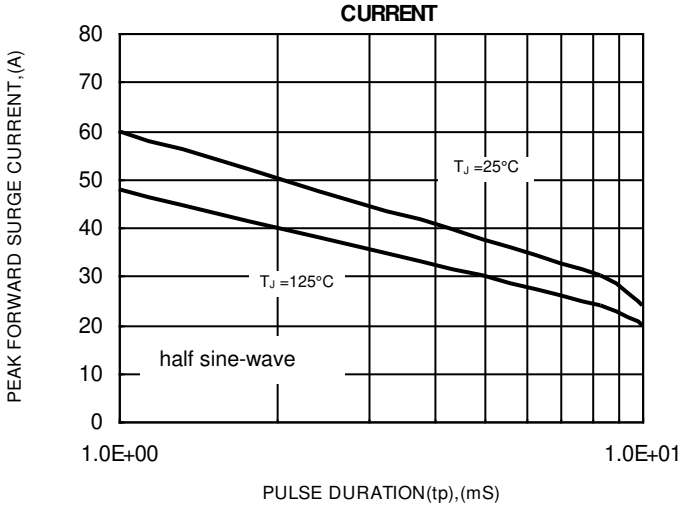


FIG.3 TYPICAL FORWARD CHARACTERISTICS

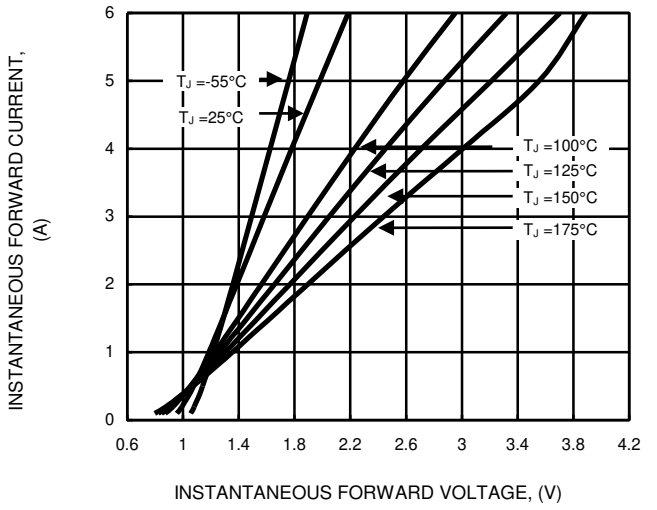


FIG.4 TYPICAL JUNCTION CAPACITANCE

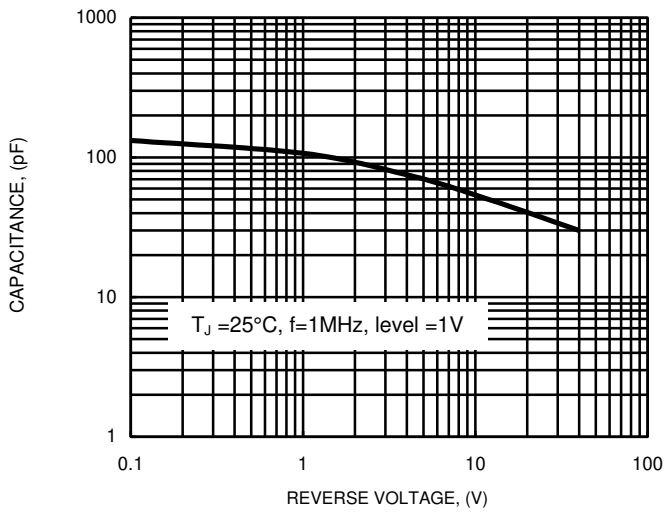


FIG.5 TYPICAL REVERSE CHARACTERISTICS

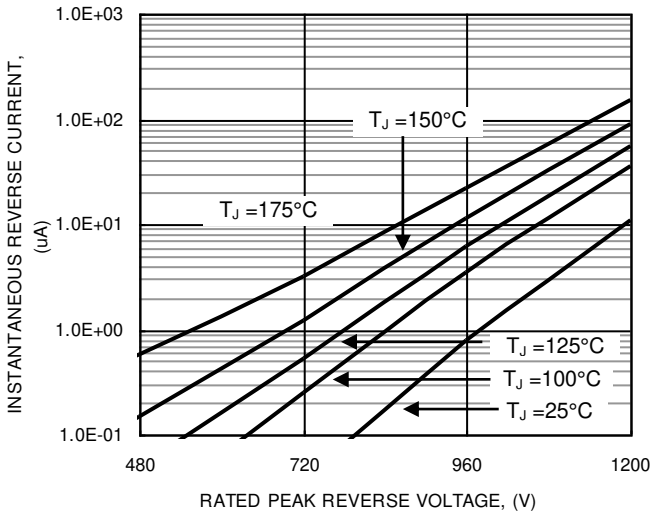
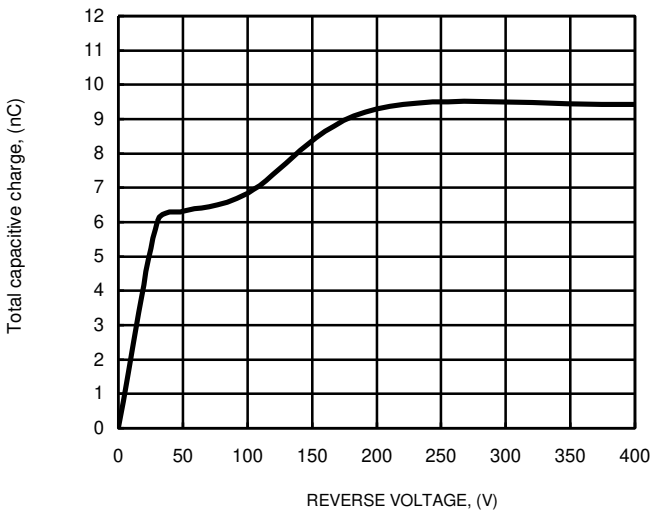


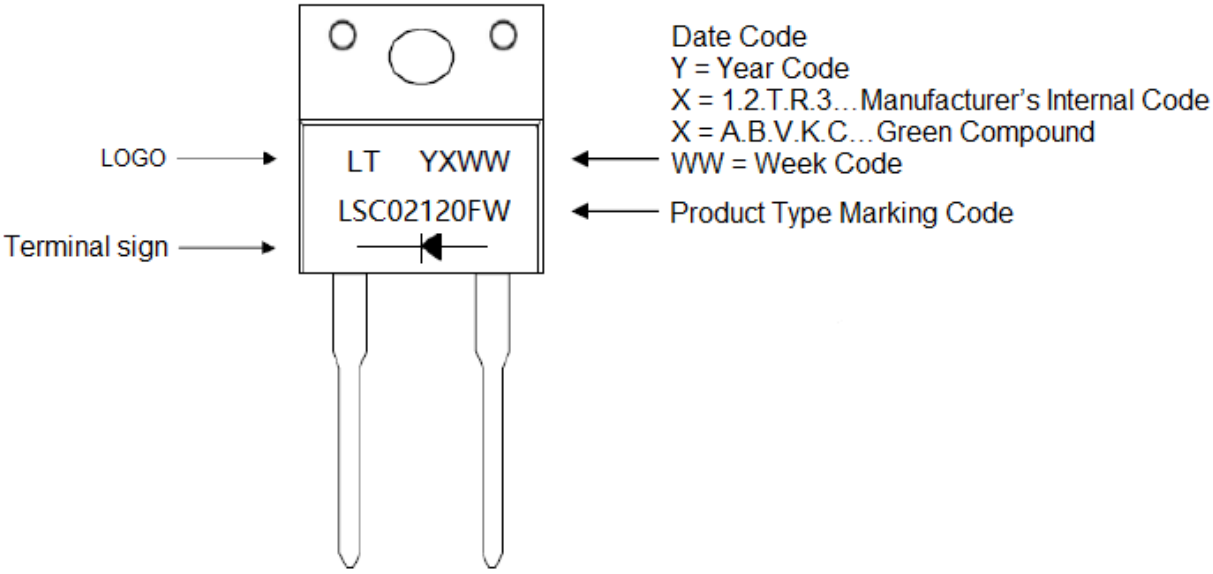
FIG.6 TYPICAL CAPACITIVE CHARGES



Ordering Information:

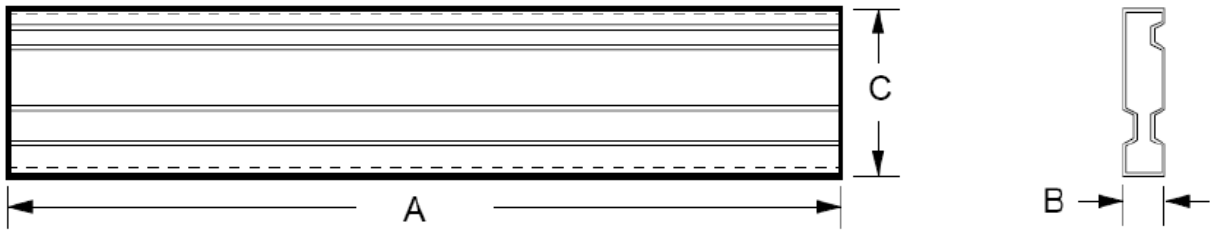
Part Number	Package	Packing	
		Qty.	Carrier
LSC02120FW	ITO220AC (Type WX)	50pcs	Tube

Marking Information:

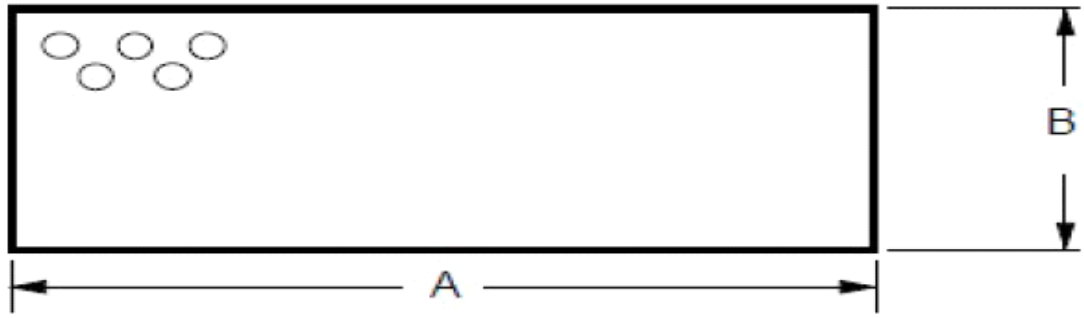


Packaging Information:

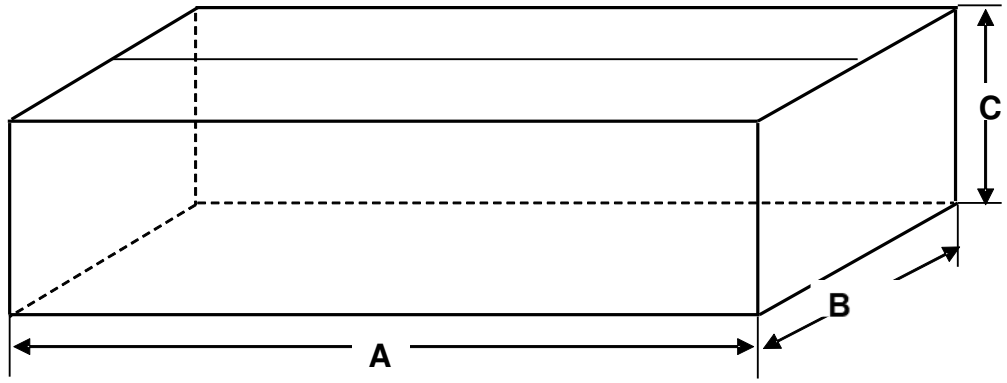
1. TUBE



2. AIR BAG

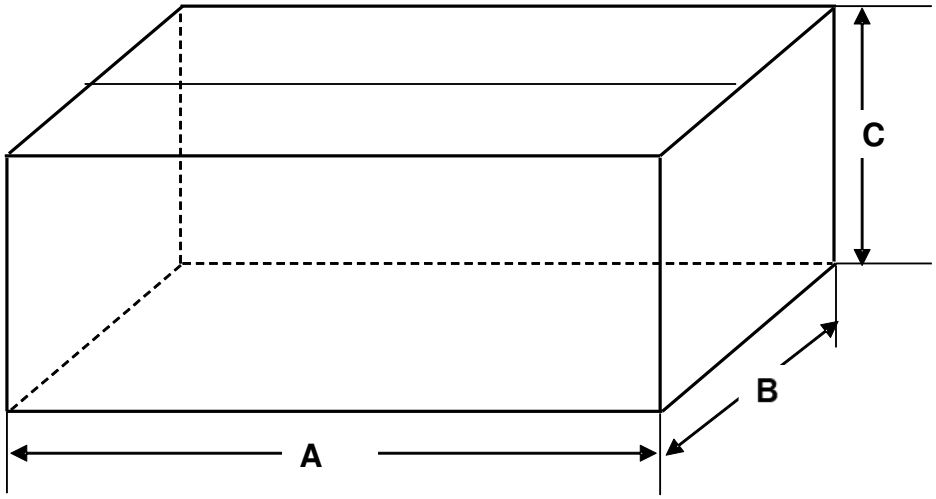


3. INNERBOX



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

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