

**SILICON CARBIDE SCHOTTKY DIODE**

**REVERSE VOLTAGE – 650 Volts**  
**FORWARD CURRENT – 4 Amperes**

**FEATURES**

- Positive temperature coefficient for save operation and easy of paralleling
- 175°C 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
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

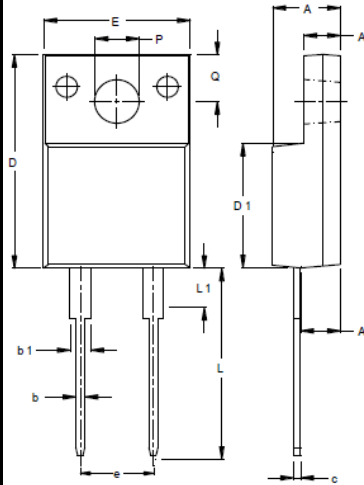
**APPLICATION**

- Switch mode power supplies
- Power factor corrections
- Power factor correction modules

**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: LSC04065FW

**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
Ø	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	$V_{RRM}$	650	V
Maximum DC blocking voltage	$V_{DC}$	650	V
Maximum Average rectified output current	$I_{(AV)}$	4	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	$I_{FSM}$	28	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)	$I_F=4A$ $T_J=25^\circ C$ $T_J=175^\circ C$	$V_F$	-- 1.94	1.70 2.25	V
Leakage current	$V_R=650V$ $T_J=25^\circ C$ $T_J=175^\circ C$	$I_R$	-- 16.5	170 550	uA
Typical junction capacitance (Note 5)		$C_J$		125	pF

**DYNAMIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	UNIT
Total Capacitive Charge	$V_R=400V, di/dt=250A/uS,$ $I_F=4A$	$Q_c$	14	nC

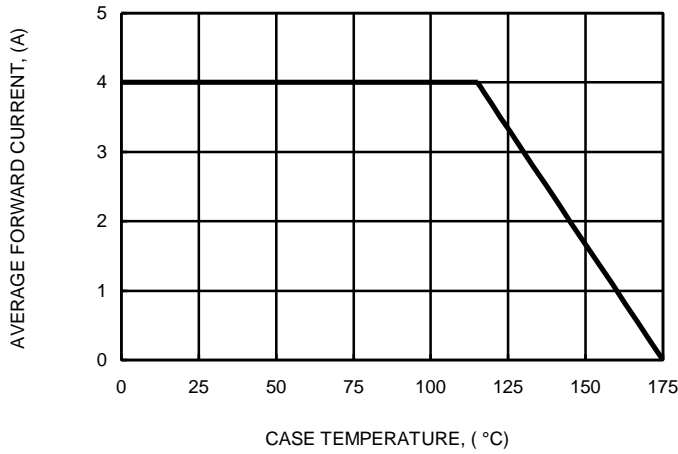
**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	$R_{thJc}$ $R_{thJL}$	7 5	°C/W

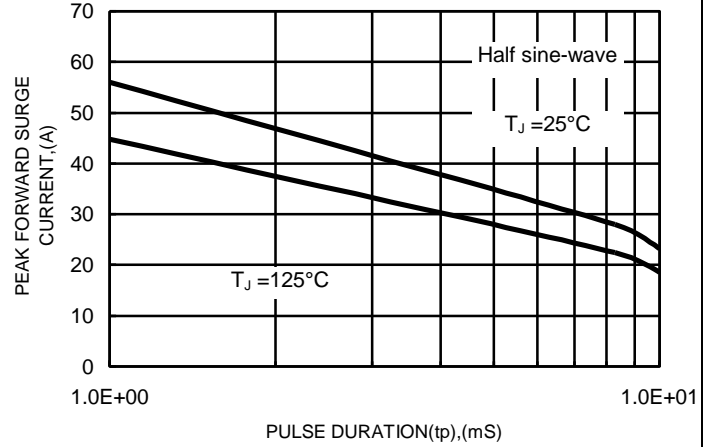
**Notes:**

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. 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 fin-type Heatsink 24mm x 42 mm x 24mm.

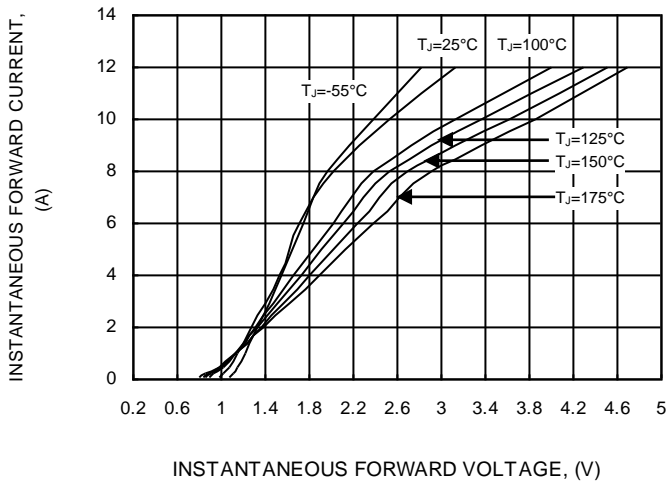
**FIG.1 FORWARD CURRENT DERATING CURVE**



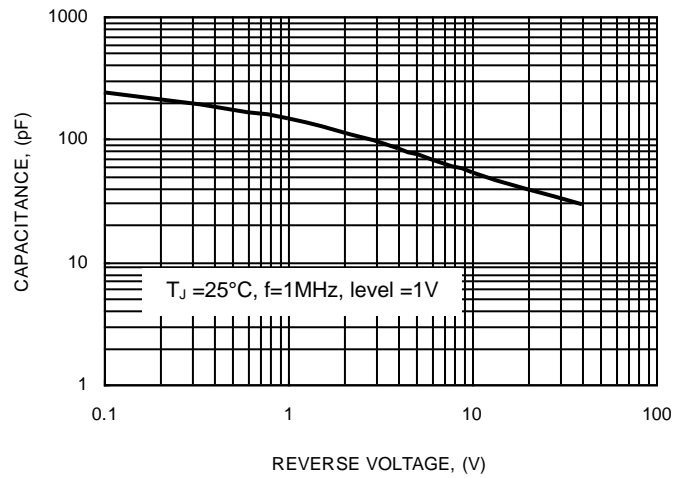
**FIG.2 NON-REPETITIVE PEAK SURGE FORWARD CURRENT**



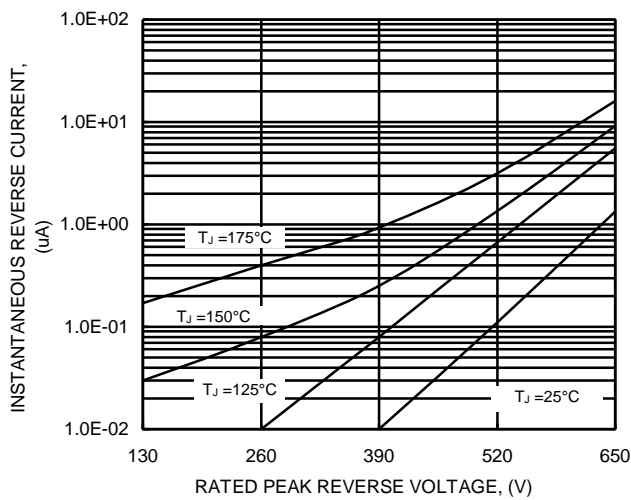
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



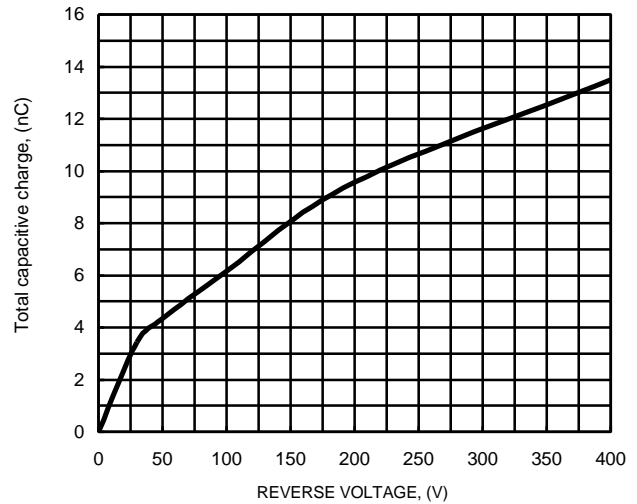
**FIG.4 TYPICAL JUNCTION CAPACITANCE**



**FIG.5 TYPICAL REVERSE CHARACTERISTICS**



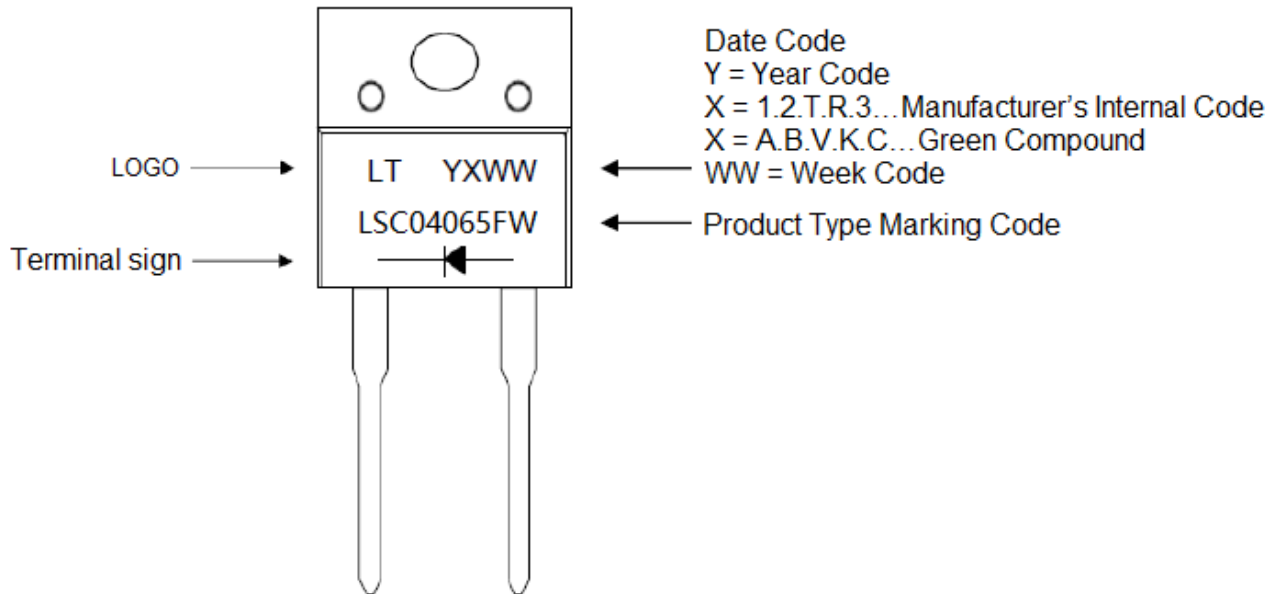
**FIG.6 TYPICAL CAPACITIVE CHARGES**



### Ordering Information:

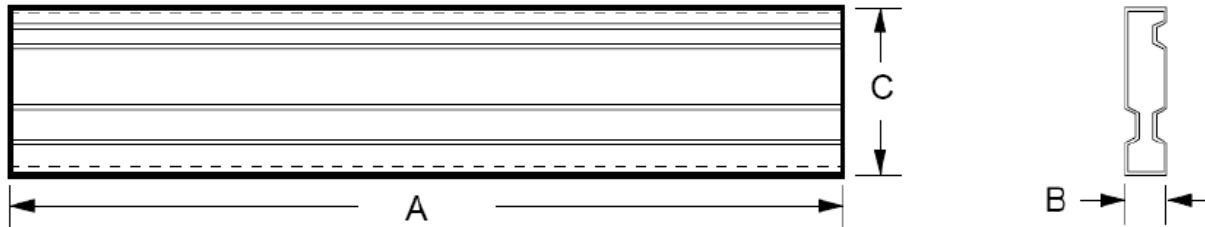
Part Number	Package	Packing	
		Qty.	Carrier
LSC04065FW	ITO220AC (Type WX)	50pcs	Tube

### Marking Information:

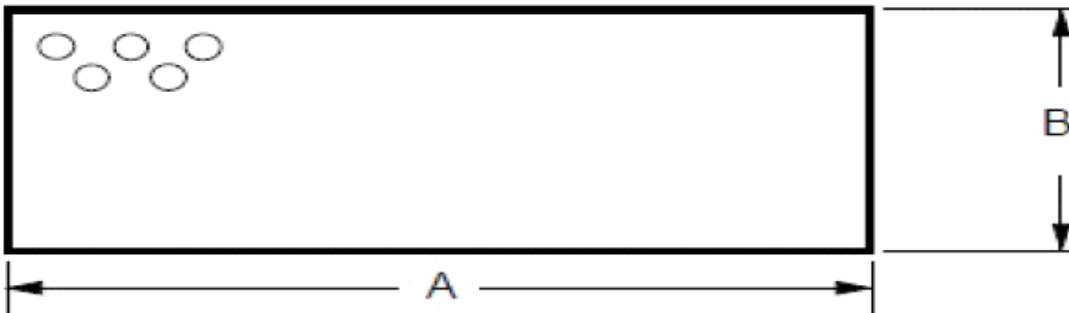


**Packaging Information:**

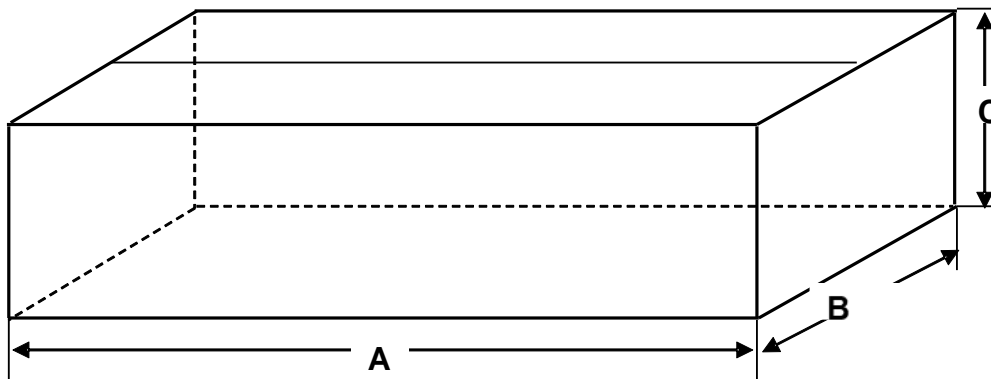
**1. TUBE**



**2. AIR BAG**

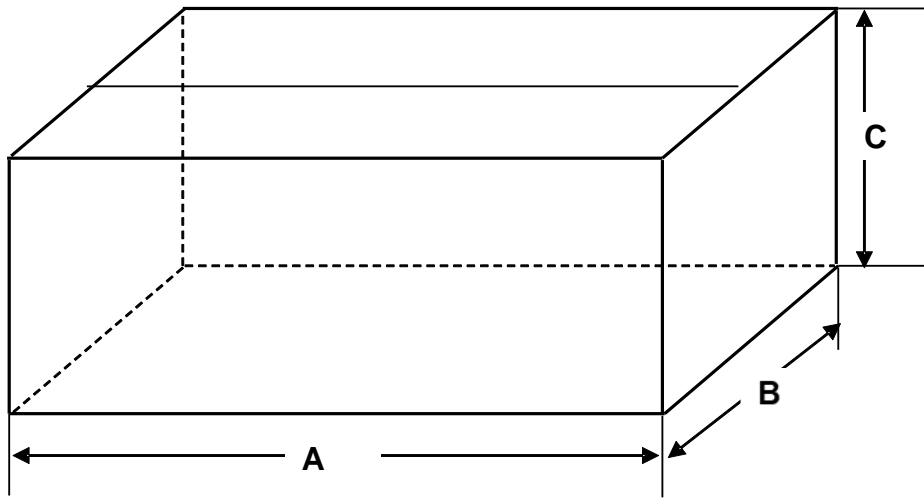


**3. INNERBOX**



**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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