



## MOS Controlled Diode

### PRODUCT SUMMARY

V <sub>RRM</sub>	I <sub>O</sub>	V <sub>F</sub> (MAX) @ 25°C	I <sub>R</sub> (MAX) @ 25°C
45V	3A	0.51V	0.5mA

### FEATURES

- Low Profile Design for Smart Phone Charger
- Ideal for SMT Mounting
- Low forward voltage drop
- High forward surge capability
- Excellent High Temperature Stability

### DO-221



Top View



Bottom View



### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>RRM</sub>	Peak Repetitive Reverse Voltage	45	V
V <sub>RWM</sub>	Working Peak Reverse Voltage	45	V
V <sub>RM</sub>	DC Blocking Voltage	45	V
V <sub>R(RMS)</sub>	RMS Reverse Voltage	32	V
I <sub>O</sub>	Average Rectified Output Current	3	A
I <sub>FSM</sub>	Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	80	A
E <sub>AS</sub>	Non-Repetitive Avalanche Energy (T <sub>J</sub> = 25°C, I <sub>AS</sub> = 8, L = 5mH)	100	mJ
P <sub>ARM</sub>	Repetitive Peak Avalanche Energy	10000	W

### THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Unit
R <sub>θJA</sub>	Thermal Resistance, Junction-to-Ambient	115	°C/W
T <sub>J</sub>	Operating Temperature Range	-55 to 150	°C
T <sub>STG</sub>	Storage Temperature Range	-55 to 175	°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V <sub>F</sub>	Forward Voltage Drop	I <sub>F</sub> = 1A, T <sub>J</sub> = 25°C		0.37	0.42	V
		I <sub>F</sub> = 3A, T <sub>J</sub> = 25°C		0.46	0.51	V
		I <sub>F</sub> = 3A, T <sub>J</sub> = 125°C		0.44	0.50	V
I <sub>R</sub>	Leakage Current	V <sub>R</sub> = 45V, T <sub>J</sub> = 25°C		40	500	uA
		V <sub>R</sub> = 45V, T <sub>J</sub> = 125°C			100	mA
C <sub>T</sub>	Total Capacitance	V <sub>R</sub> = 45V, f = 1MHz		70		pF

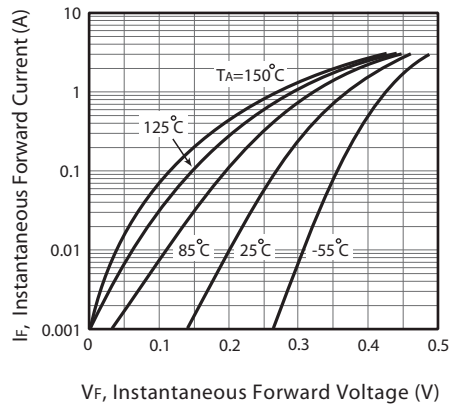


Figure 1. Typical Forward Characteristics

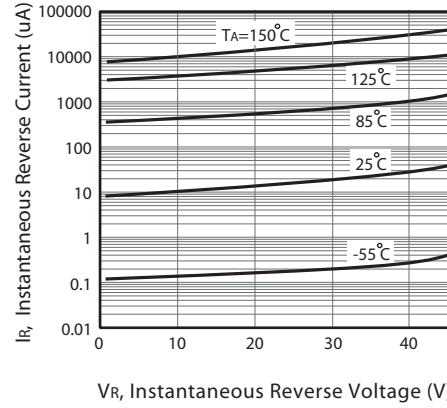


Figure 2. Typical Reverse Characteristics

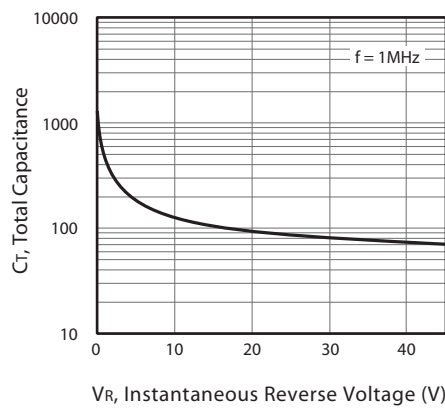


Figure 3. Total Capacitance vs. Reverse Voltage

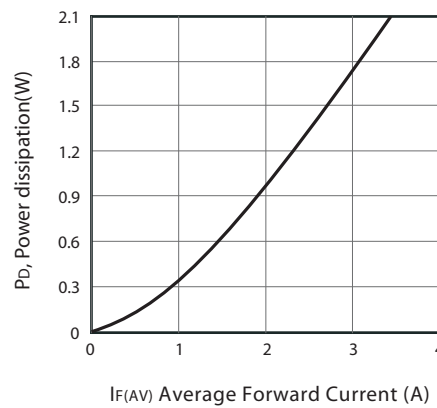


Figure 4. Forward Power Dissipation

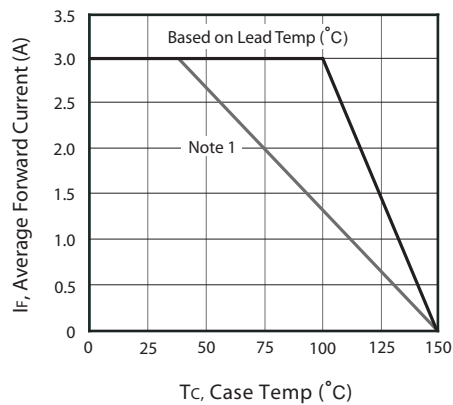


Figure 5. Forward Current Derating Curve

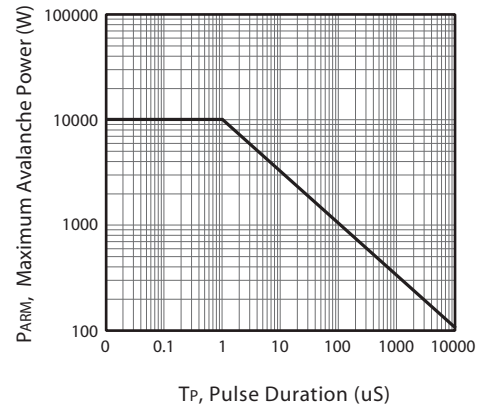


Figure 6. Maximum Avalanche Power Curve

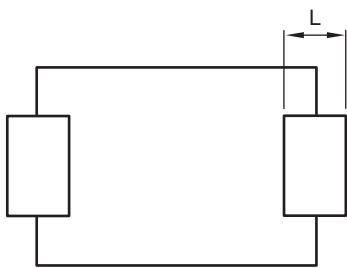
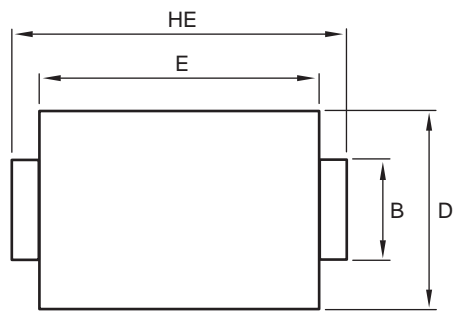
**Note:** 1. Device mounted on FR-4 substrate, 2oz copper, with 10cm x 10cm pad layout.

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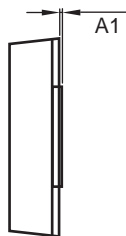
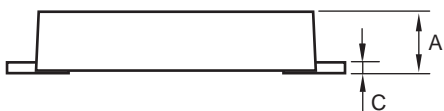
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## PACKAGE OUTLINE DIMENSIONS

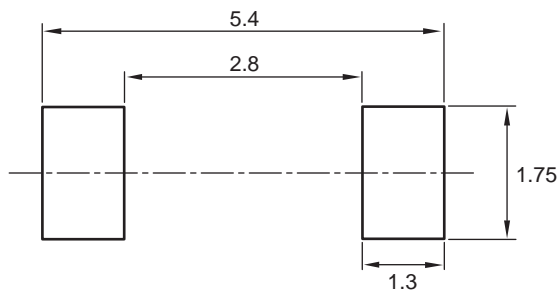
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SYMBOLS	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.900	0.955	1.010
B	1.250	1.350	1.450
C	0.100	0.175	0.250
D	2.600	2.700	2.800
HE	4.800	5.000	5.200
E	4.100	4.200	4.300
L	0.800	0.900	1.000
A1	0.000	0.050	0.100



### Mounting Pad Layout (unit:mm)



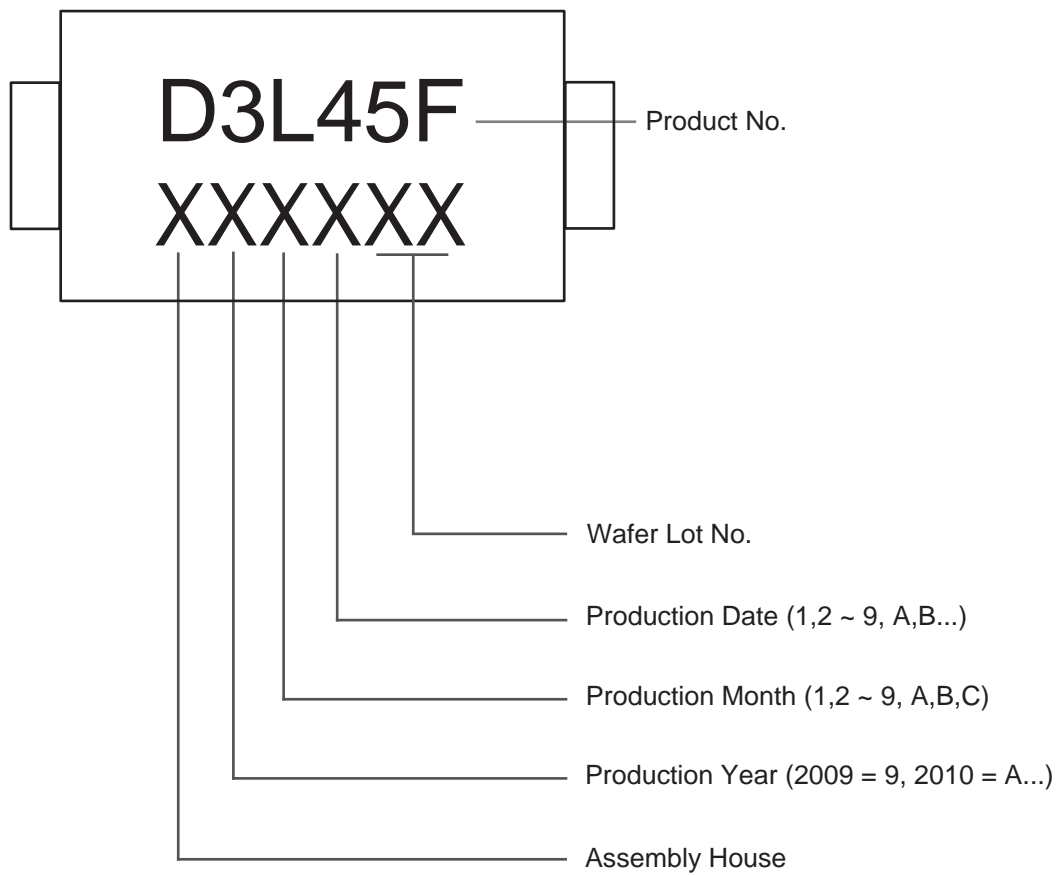
May,05,2015

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## TOP MARKING DEFINITION

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May,05,2015