



MOS Controlled Diode

PRODUCT SUMMARY

V _{RRM}	I _O	V _F (MAX) @ 25°C	I _R (MAX) @ 25°C
50V	20A	0.5V	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



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{RRM}	Peak Repetitive Reverse Voltage	50	V
V _{RWM}	Working Peak Reverse Voltage	50	V
V _{RM}	DC Blocking Voltage	50	V
V _{R(RMS)}	RMS Reverse Voltage	35	V
I _O	Average Rectified Output Current	20	A
I _{FSM}	Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	300	A
E _{AS}	Non-Repetitive Avalanche Energy (T _J = 25°C, I _{AS} = 14, L = 5mH)	340	mJ
P _{ARM}	Repetitive Peak Avalanche Energy	32000	W

THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Unit
R _{θJA}	Thermal Resistance, Junction-to-Ambient	12	°C/W
T _J	Operating Temperature Range	-55 to 150	°C
T _{STG}	Storage Temperature Range	-55 to 175	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _F	Forward Voltage Drop	I _F = 15A, T _J = 25°C		0.43	0.46	V
		I _F = 20A, T _J = 25°C		0.47	0.50	V
		I _F = 20A, T _J = 125°C		0.46	0.49	V
I _R	Leakage Current	V _R = 50V, T _J = 25°C		140	500	uA
		V _R = 50V, T _J = 125°C			100	mA
C _T	Total Capacitance	V _R = 50V, f = 1MHz		260		pF

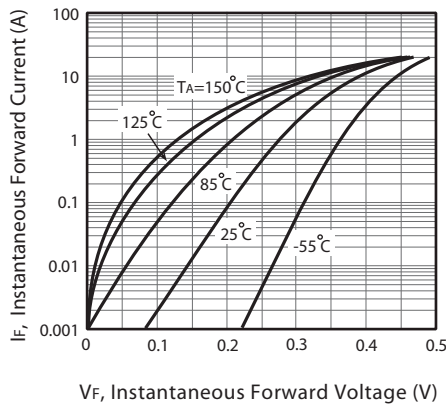


Figure 1. Typical Forward Characteristics

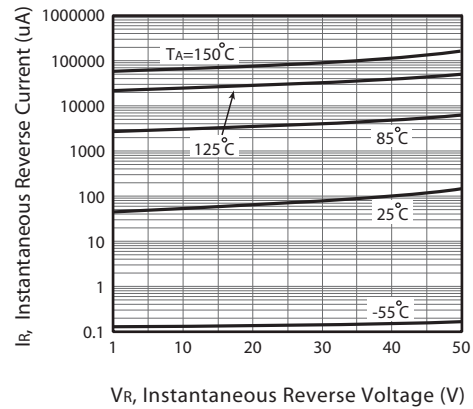


Figure 2. Typical Reverse Characteristics

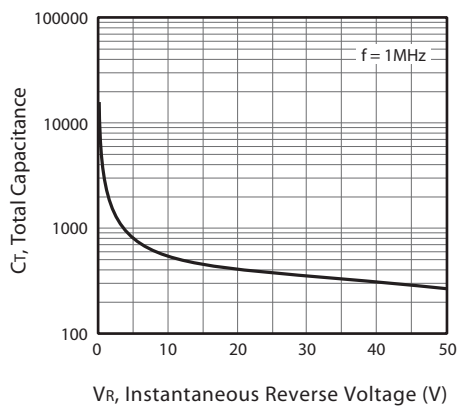


Figure 3. Total Capacitance vs. Reverse Voltage

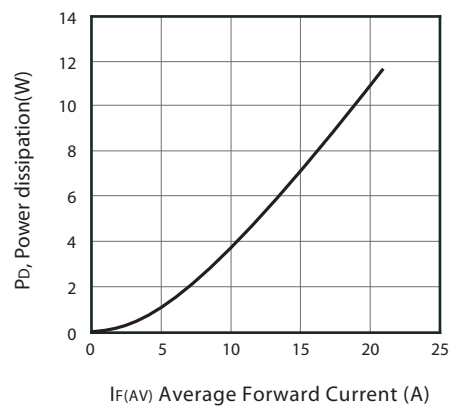


Figure 4. Forward Power Dissipation

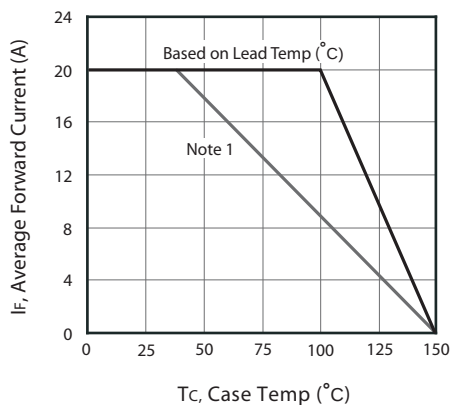


Figure 5. Forward Current Derating Curve

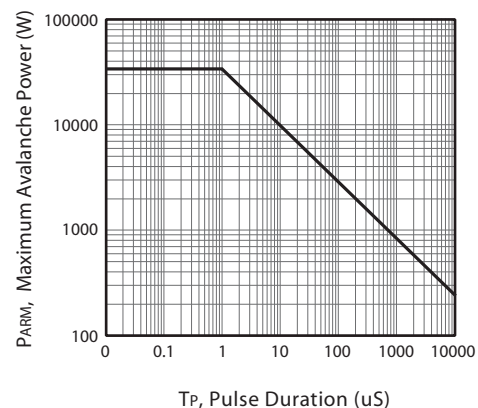


Figure 6. Maximum Avalanche Power Curve

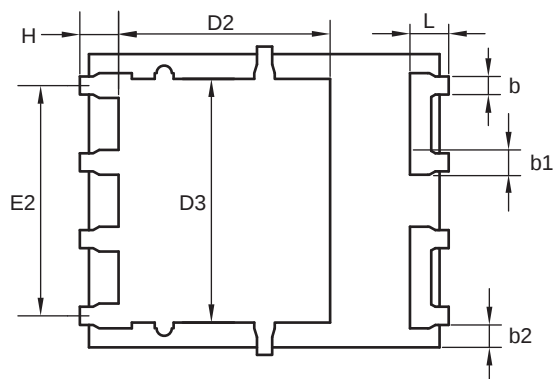
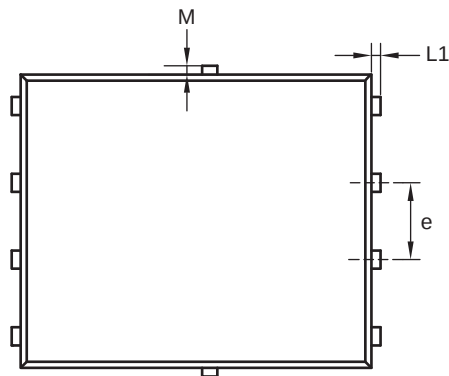
Note: 1. Device mounted on FR-4 substrate, 2oz copper, with 10cm x 10cm pad layout.

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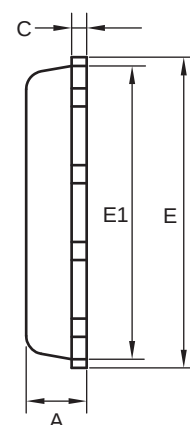
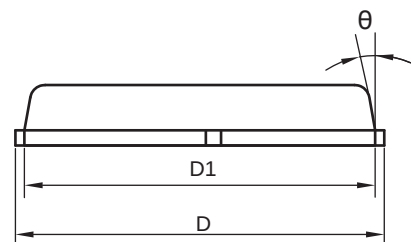
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PACKAGE OUTLINE DIMENSIONS

DFN 5x6



SYMBOLS	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.90	1.00	1.10
b	0.20	0.30	0.40
b1	0.31	0.41	0.51
b2	0.25	0.35	0.45
C	0.15	0.25	0.35
D	5.90	6.10	6.30
D1	5.60	5.80	6.00
D2	3.50 REF.		
D3	4.00 REF.		
E	5.00	5.20	5.40
E1	4.70	4.90	5.10
E2	3.71	3.81	3.91
e	1.17	1.27	1.37
H	0.63 REF.		
L	0.53	0.63	0.73
L1	0.05	0.15	0.25
M	0.05	0.15	0.25
θ	8°	10°	12°



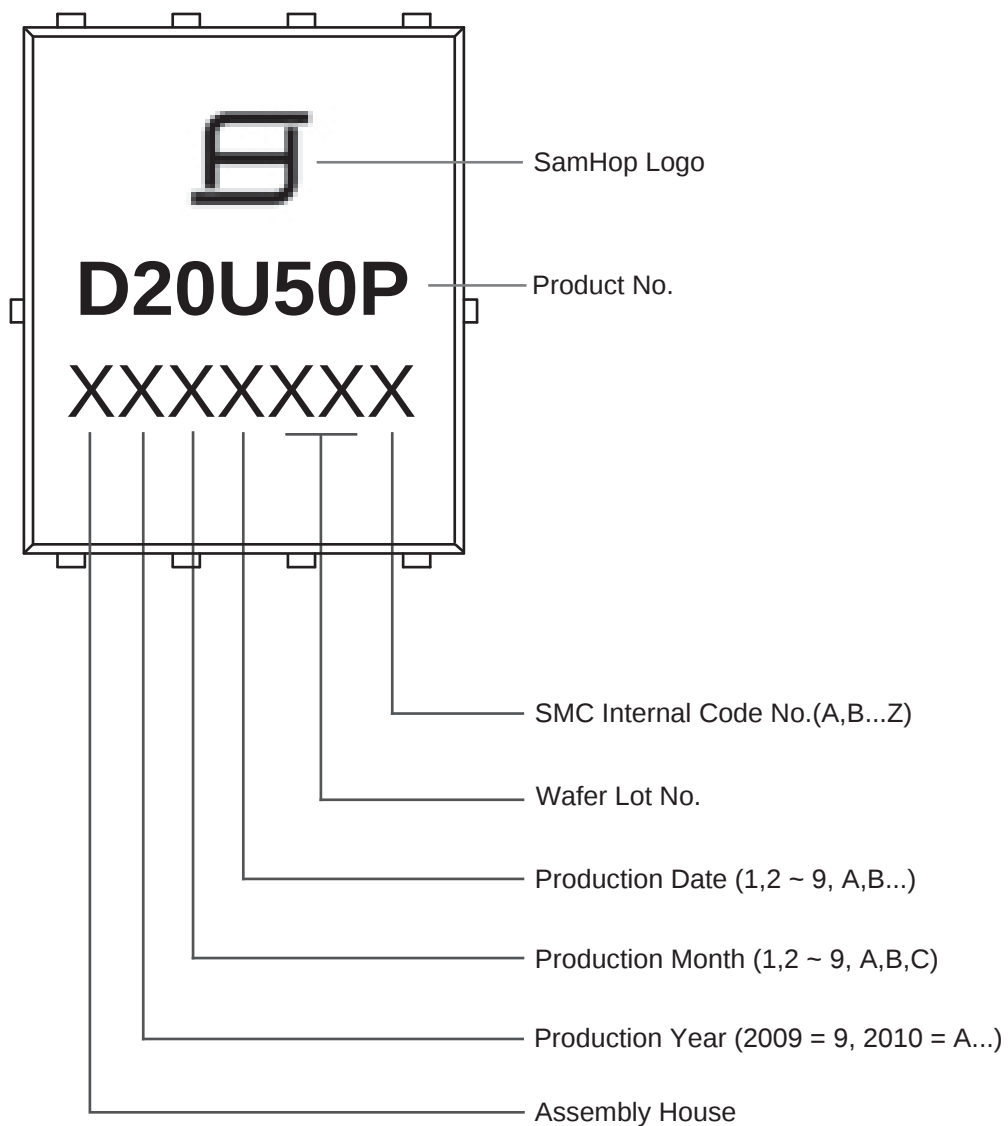
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TOP MARKING DEFINITION

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