



D58V0M4U8MR

58V UNIDIRECTIONAL TVS DIODE ARRAY

Features

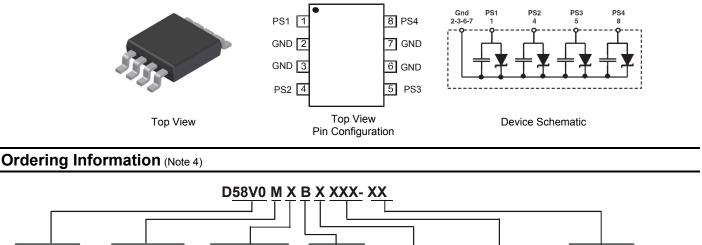
- 2.7kW Peak Pulse Power (tp = 8x20µs)
- Provides ESD Protection per IEC 61000-4-2 Standard: Air ±30kV, Contact ±30kV
- 4 Channels of ESD Protection and 4 Decoupling Capacitances
- Typically Used in Power Over Ethernet PSE Equipment against Line Overvoltages
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Capacitance

SO-8

Mechanical Data

- Case: SO-8
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208 @3)
- Weight: 0.08 grams (approximate)



5V0: 5.0 Volts X: Extremely Low (<0.5pF) B: Bidirectional 2: 2 Pins LP3: X3-DFN0603-2 7: 7" reel 1: 1 Channel 58V0: 58.0 Volts F: Ultra Low (0.5 ~ 1.0pF) 2: 2 Channels 3: 3 Pins LP: X1-DFN1006-2 7B: 7" reel (DFN1006 (Symmetrical) P: Very Low (1.1 ~ 10pF) 5: 5 Pins LP4: X2-DFN1006-2 4: 4 Channels U: Unidirectional Package Only) L: Low (10.1 ~ 20pF) 6: 6 Pins WS: SOD323 6: 6 Channels A: Bidirectional 13: 13" reel M: Medium (>20pF) (Asymmetrical) 8: 8 Pins T: SOD523/SOT523 SO: SOT23/SOT25 10: 10 Pins W: SOD123/SOT323 TS: TSOT25/TSOT26 SOT353/SOT363 S: V:SOT553/SOT563

Polarity

of Pins

Package

Packing

	Product	Compliance	Marking	Reel size(inches)	Tape width(mm)	Quantity per reel
D58V0M4U8MR-13		Standard	TV58	13	12	2500/Tape & Reel
Notes: 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.						

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.

of Channels

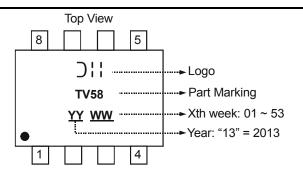
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.

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. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information

Voltage





Maximum Ratings (@T_A = +25°C, unless otherwise specified.), Per Element

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P _{PP}	2700	W	8/20µs, Per Figure 1
Peak Pulse Current	I _{PP}	24	А	8/20µs, Per Figure 1
ESD Protection – Contact Discharge	$V_{ESD_Contact}$	±30	kV	IEC 61000-4-2 Standard
ESD Protection – Air Discharge	$V_{\text{ESD}_\text{Air}}$	±30	kV	IEC 61000-4-2 Standard

Thermal Characteristics

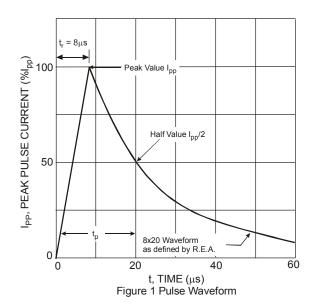
Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	PD	1.0	W
Thermal Resistance, Junction to Ambient (Note 5)	R _{0JA}	125	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

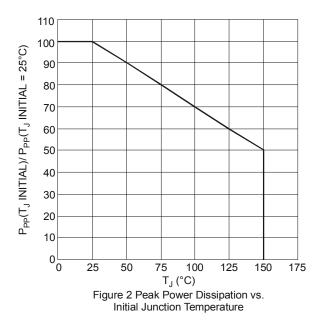
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	—	—	58	V	—
Channel Leakage Current (Note 6)	I _{RM}	—	—	0.2	μA	V _{RWM} = 58V
Breakdown Voltage	V _{BR}	64.4	—	71.2	V	I _R = 1mA
Clamping Voltage	V _{CL}	—	—	100	V	I_{PP} = 24A, t_p = 8/20µS
Channel Input Capacitance	CT	—	55		pF	V _R = 50V, f = 1MHz

Notes: 5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at http://www.diodes.com.

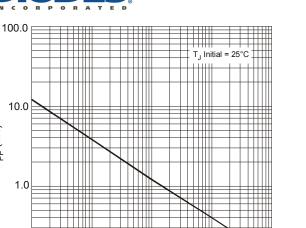
6. Short duration pulse test used to minimize self-heating effect.



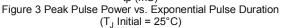


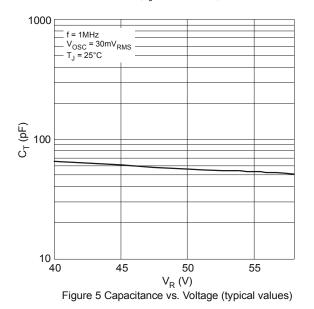


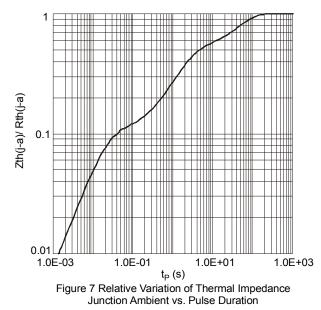
P_{PP} (kW)











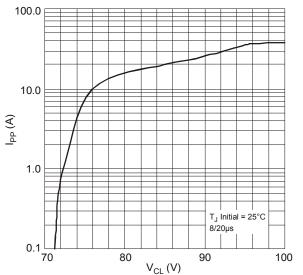
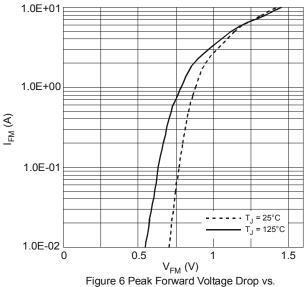
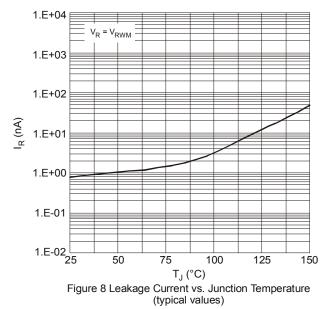


Figure 4 Clamping Voltage vs. Peak Pulse Current (Exponential Waveform, Maximum Values)



Peak Forward Current (typical values)



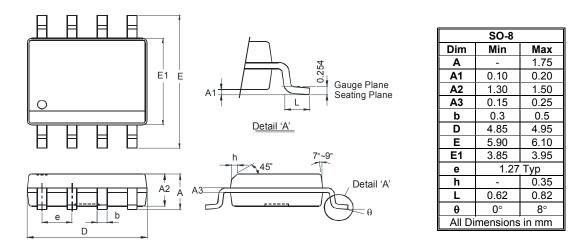
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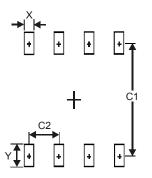
Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)		
Х	0.60		
Y	1.55		
C1	5.4		
C2	1.27		



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