QUAD SURFACE MOUNT TVS ARRAY

Features

- Quad TVS in Common Anode Configuration
- Ultra-Small Surface Mount Package
- Ideal For Transient Suppression and ESD Protection
- Low Capacitance, <10pF @ V_R = 0V
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green Device" (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

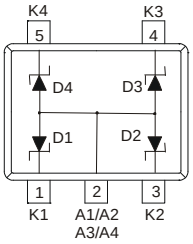
Mechanical Data

- Case: SOT-953
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Finish: Matte Tin, Annealed Over Copper Leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.002 grams (approximate)

ESD Capability

- **IEC 61000-4-2 Contact Method ±8kV**
- **IEC 61000-4-2 Air Discharge Method ±15kV**

Top View



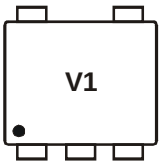
Device Schematic

Ordering Information (Note 3)

Part Number	Case	Packaging
DUP412VP5-7	SOT-953	10,000/Tape & Reel

Notes:
1. No purposefully added lead.
2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
3. For packaging details, go to our website at http://www.diodes.com.

Marking Information



V1 = Product type marking code

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Peak Power Dissipation, 8x20μS Waveform (Note 5)	P_{pk}	18	W
Thermal Resistance, Junction-to-Ambient (Note 5)	$R_{\theta JA}$	417	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Type Number	Marking Code	Breakdown Voltage (Note 6)			Leakage Current (Note 6)		Capacitance @0V Bias(pF) (Note 7)		Capacitance @3V Bias(pF) (Note 7)	
		V_{BR} @ I_T = 5mA			I_{RM} @ V_{RM}		C_T		C_T	
		Min (V)	Nom (V)	Max (V)	Max(μA)	(V)	Typ	Max	Typ	Max
DUP412VP5	V1	11.4	12	12.7	0.5	9.0	6.5	10	3.5	5

Notes:
4. Non-repetitive current pulse per Figure 2 and derate above T_A = 25°C per Figure 1.
5. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. Suggested Pad Layout Document AP02001, which can be found on our website at http://www.diodes.com.
6. Short duration pulse test used to minimize self-heating effect.
7. Per element, f = 1MHz, T_A = 25°C

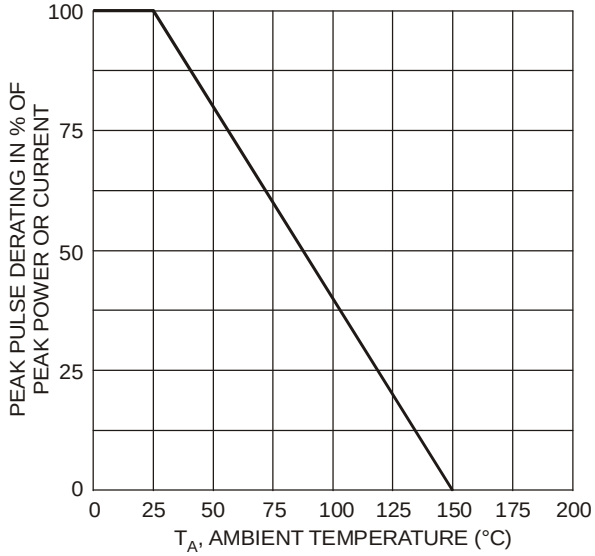


Fig. 1 Pulse Derating Curve

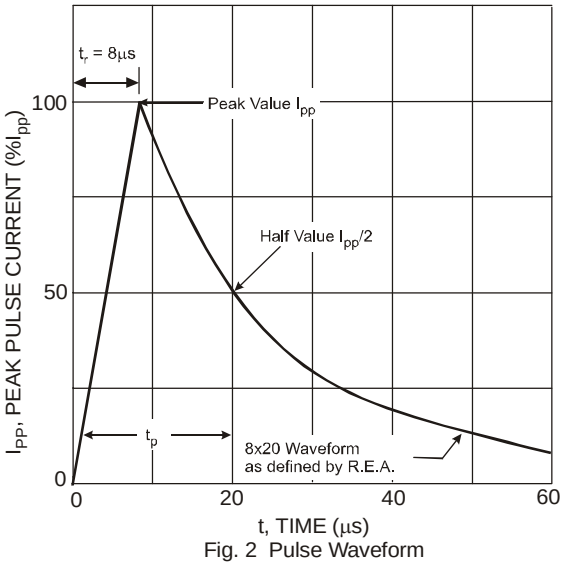


Fig. 2 Pulse Waveform

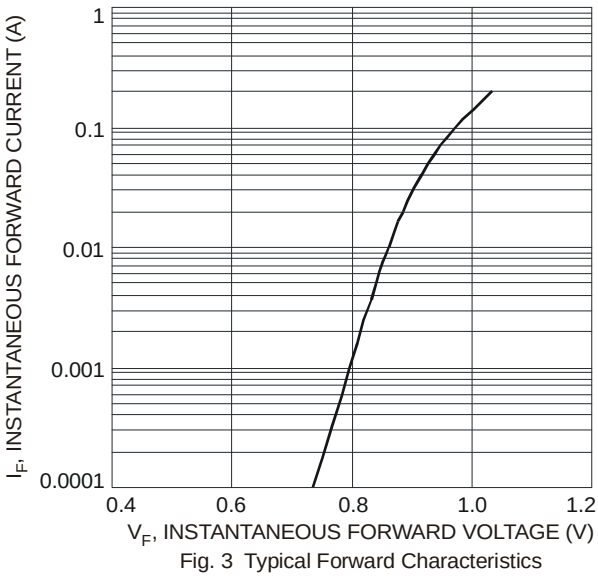


Fig. 3 Typical Forward Characteristics

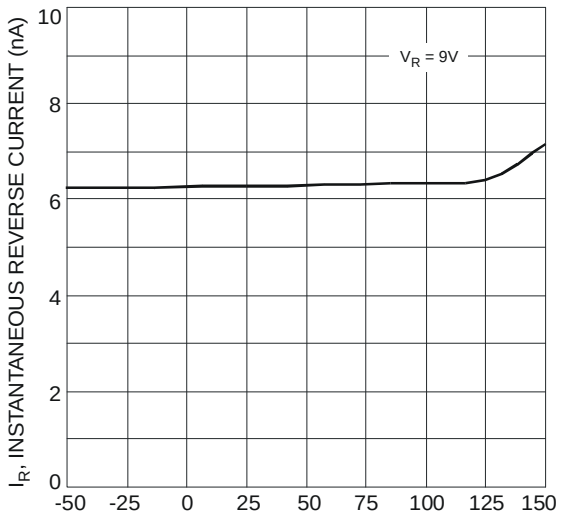


Fig. 4 Instantaneous Reverse Current vs. Ambient Temperature

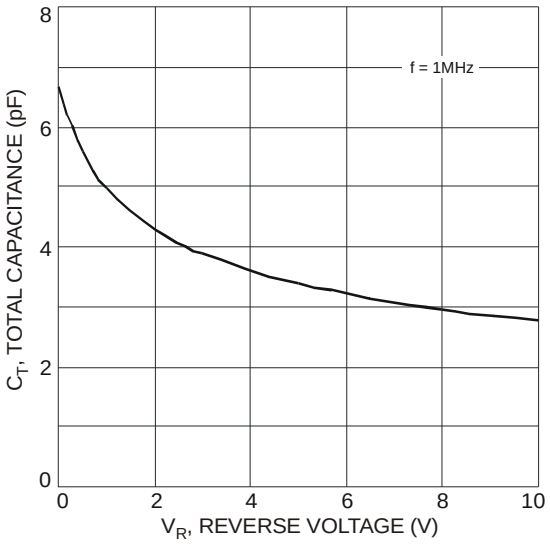
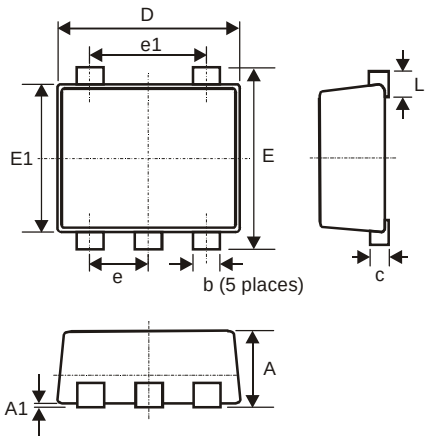


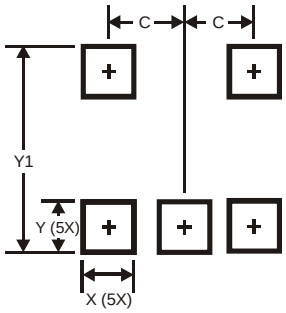
Fig. 5 Typical Total Capacitance vs. Reverse Voltage (Per Element)

Package Outline Dimensions



SOT-953			
Dim	**Min**	**Max**	**Typ**
A	0.40	0.50	0.45
A1	0	0.05	–
b	0.10	0.20	0.15
c	0.12	0.18	0.15
D	0.95	1.05	1.00
E	0.95	1.05	1.00
E1	0.75	0.85	0.80
e	–	–	0.35
e1	–	–	0.70
L	0.05	0.15	0.10
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
C	0.350
X	0.200
Y	0.200
Y1	1.100

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- Техническая поддержка проекта;
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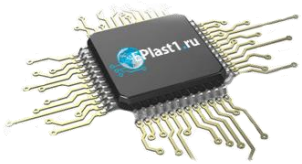

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