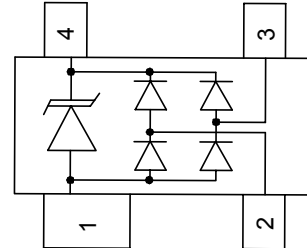


## Low Capacitance TVS Diode Array

### Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 6A (8/20 $\mu\text{s}$ )
- RoHS Compliant



### Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

### Mechanical Characteristics

- Package: SOT-143
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0

Absolute Maximum Ratings ( $T_{amb}=25^{\circ}\text{C}$  unless otherwise specified)

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{pk}$	500	W
Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )	$I_{pp}$	25	A
Peak Forward Voltage ( $I_F = 1\text{A}$ , $t_p=8/20\mu\text{s}$ )	$V_{FP}$	1.5	V
Lead Soldering Temperature	$T_L$	260 /10S	$^{\circ}\text{C}$
Operating Temperature	$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

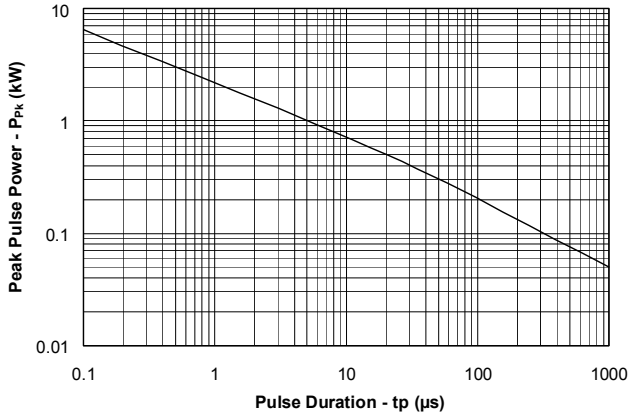
## Low Capacitance TVS Diode Array

Electrical Characteristics (TA=25°C unless otherwise specified)

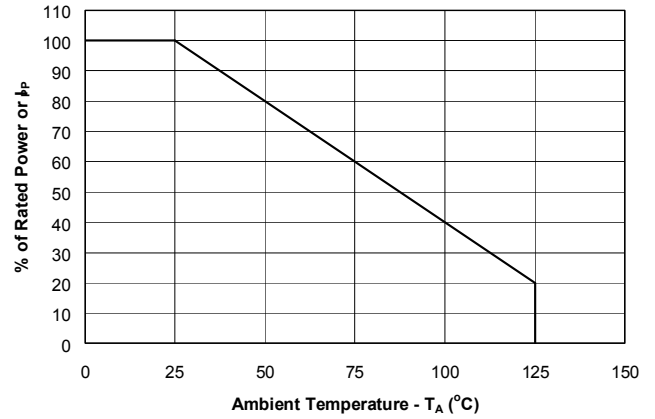
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_t = 1mA$	6			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5V, T=25^\circ C$			5	$\mu A$
Clamping Voltage	$V_C$	$I_{pp} = 1A, tp = 8/20\mu s$			9.8	V
Clamping Voltage	$V_C$	$I_{pp} = 10A, tp = 8/20\mu s$			12	V
Clamping Voltage	$V_C$	$I_{pp} = 25A, tp = 8/20\mu s$			20	V
Junction Capacitance	$C_j$	Between I/O pins and Ground $V_R = 0V, f = 1MHz$		6	10	pF
		Between I/O pins $V_R = 0V, f = 1MHz$		3		pF

Typical Characteristics

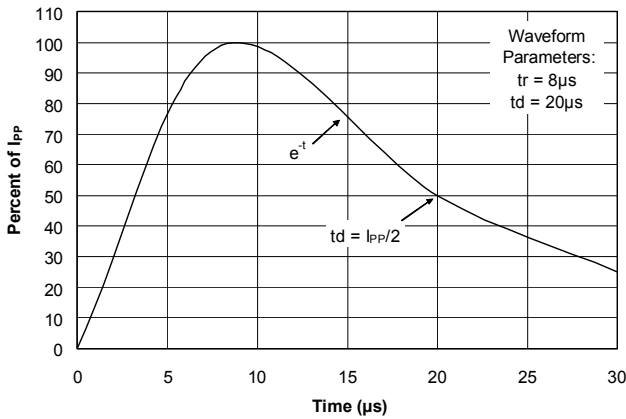
Non-Repetitive Peak Pulse Power vs. Pulse Time



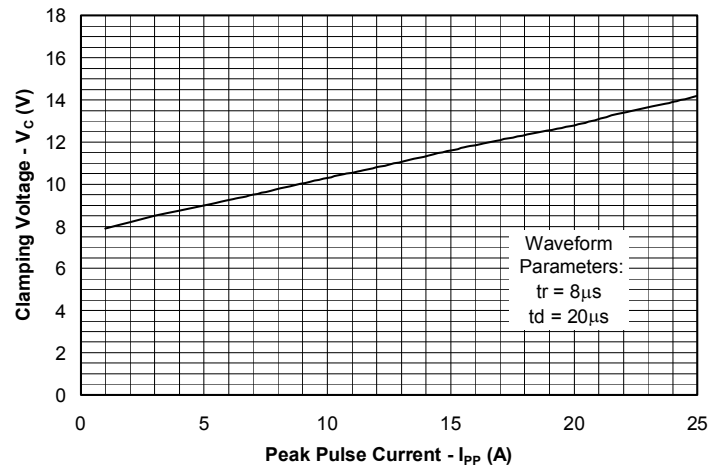
Power Derating Curve



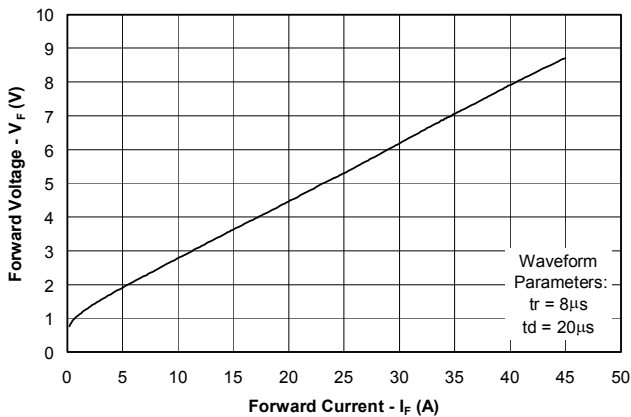
Pulse Waveform



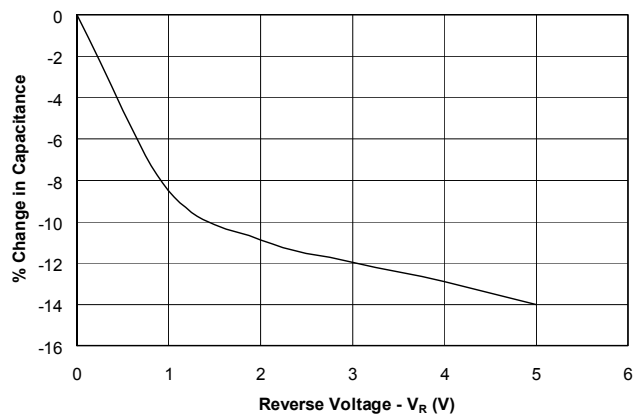
Clamping Voltage vs. Peak Pulse Current



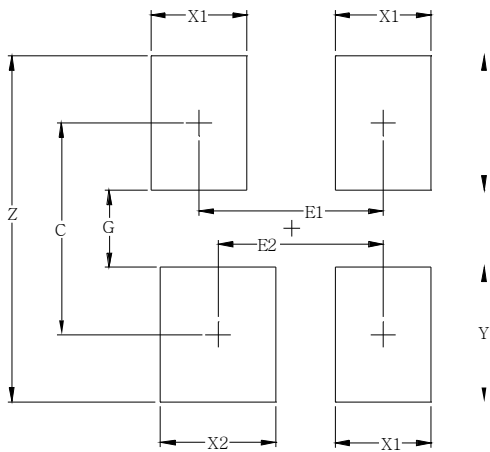
Forward Voltage vs. Forward Current



Capacitance vs. Reverse Voltage

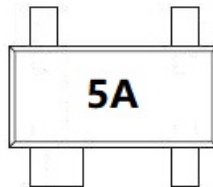


### Outline Drawing - SOT-143



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	2.20	0.087
E1	1.92	0.076
E2	1.72	0.068
G	0.80	0.031
X1	1.00	0.039
X2	1.20	0.047
Y	1.40	0.055
Z	3.60	0.141

### Marking



### Ordering information

Order code	Package	Base qty	Delivery mode
UMW PSR05-LF-T7	SOT-143	3000	Tape and reel