

Low Capacitance TVS Diode Array

APPLICATIONS

- ◆ ADSL Lines
- ◆ I²C Bus Protection
- ◆ Video Line Protection
- ◆ T1/E1 secondary IC Side Protection
- ◆ Portable Electronics
- ◆ Microcontroller Input Protection
- ◆ WAN/LAN Equipment
- ◆ ISDN S/T Interface

IEC COMPATIBILITY

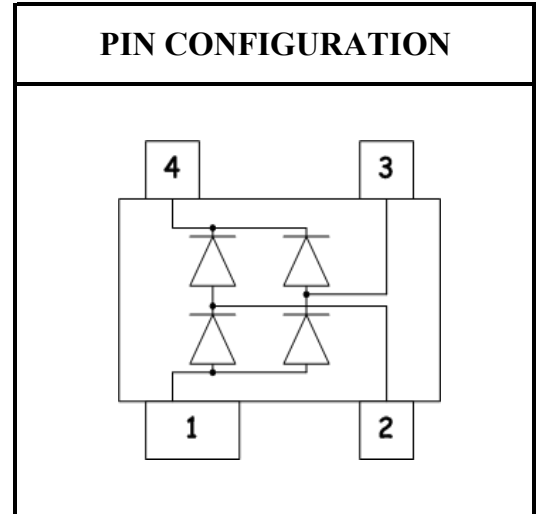
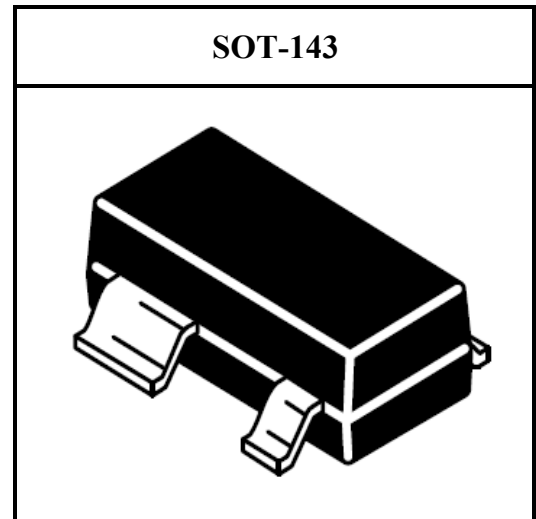
- ◆ IEC61000-4-2 (ESD) ±52kV (air), ±52kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (Lightning) 24A (8/20μs)

FEATURES

- ◆ Array of surge rated, low capacitance diodes
- ◆ Protects two I/O lines
- ◆ Low capacitance (1.7pF or less) for high-speed interfaces
- ◆ Low clamping voltage
- ◆ RoHS Compliant

MECHANICAL CHARACTERISTICS

- ◆ SOT-143 package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 10 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free



USD130DT4-1

DEVICE CHARACTERISTICS

MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Surge Current (tp = 8/20μs)	I _{PP}	24	A
Rectifier Repetitive Peak Reverse Voltage	V _{RWM}	70	V
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

Electrical Characteristics

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Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V _{RWM}				70	V
Punch-Through Voltage	V _{BR}	I _f =50μA	85			V
Reverse Leakage Current	I _R	V _{RWM} =70V, T=25°C			1.0	μA
Hqty ctf 'Clamping Voltage	V _C	I _{PP} =1A, tp=8/20μs		1.0	1.5	V
Hqty ctf 'Clamping Voltage	V _C	I _{PP} =10A, tp=8/20μs		3.0	3.5	V
Hqty ctf 'Clamping Voltage	V _C	I _{PP} =24A, tp=8/20μs		7.0	8.0	V
Junction Capacitance	C _j	Between I/O pins and Ground V _{RWM} =0V, f=1MHz		0.55	1.5	pF
		Between I/O pins V _{RWM} =0V, f=1MHz		0.45	0.75	pF

Marking Codes

Part Number	USD130DT4-1	Marking Code	R 7 0
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RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^\circ\text{C}$, unless otherwise noted)

FIG.1: V- I curve characteristics (Uni-directional)

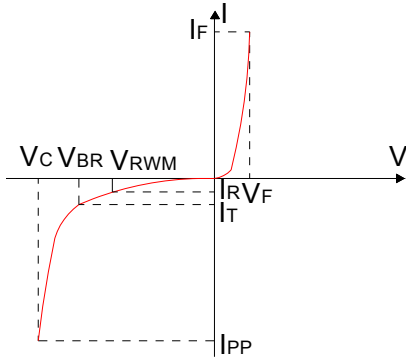


FIG.2: Pulse waveform (8/20 μ s)

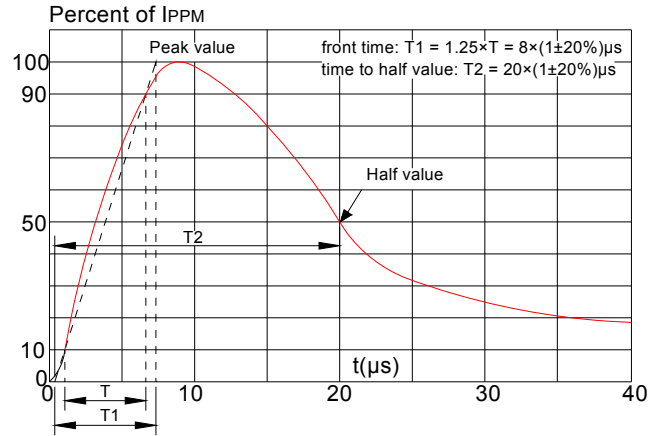


FIG.3: Pulse derating curve

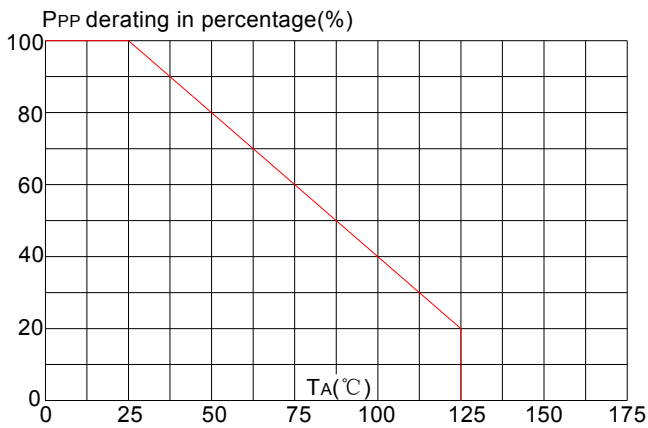
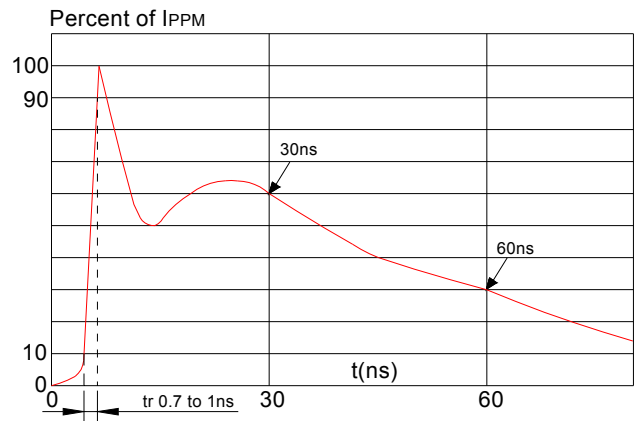


FIG.4: ESD clamping (30KV contact)



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Outline Drawing – SOT-143

