

# POWER SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

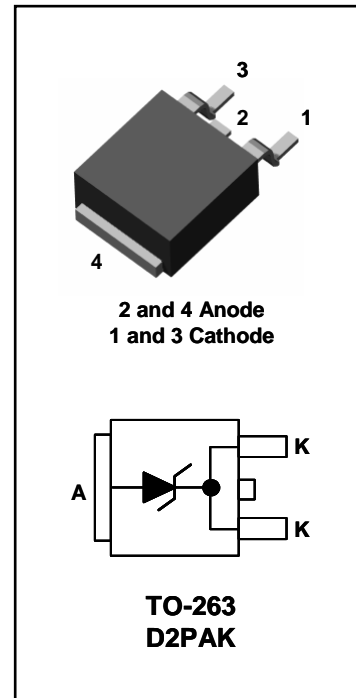
This High Energy Transient Voltage Suppressor comes in an Industry Standard D2PAK package and is intended for Load Dump Protection in Automotive Circuitry, suitable for the PowerNET 42V Systems, and also for any Industrial Applications that requires a Surface Mount Form Factor

## SPECIFICATION FEATURES

- 6.6kW Power Dissipation (10x1000µsec Waveform)
- 3 kW Power Dissipation (10x10,000µsec Waveform)
- Very Low Leakage Current, Maximum of 5µA @ 48Vdc
- Low Clamping Voltage

## APPLICATIONS

- Load Dump Protection
- PowerNET 42V System Protection
- Automotive Instrumentation
- AC/DC Industrial Systems
- 48V Telecom Power Supplies



## MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Pulse Power (10x1,000µsec Waveform)	$P_{pp}$	6.6	kW
Peak Pulse Power (10x10,000µsec Waveform)	$P_{pp}$	3.0	kW
Steady State Power Dissipation	$P_D$	8	W
Max Peak Pulse Current (10x1000µsec Waveform)	$I_{ppm}$	85	A
Thermal Resistance junction to ambient	$R_{\theta JA}$	55	°C/W
Thermal Resistance junction to case	$R_{\theta JC}$	1.2	°C/W
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	°C

## ELECTRICAL CHARACTERISTICS $T_j = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{WRM}$				48	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 5\text{mA}$	53.3		61.3	V
Reverse Leakage Current	$I_R$	$V_R = 48\text{V}$			5	µA
Clamping Voltage (10x1000µsec)	$V_C$	$I_{pp} = 82\text{A}$			82	V
On-state forward voltage (Note 1)	$V_F$	$I_F = 100\text{A}$			2.0	V
Off State Capacitance	$C_J$	1MHz, 0Vdc Bias			5	nF

Note 1: Pulse Width = 300µs, D.C. ≤ 2.0%

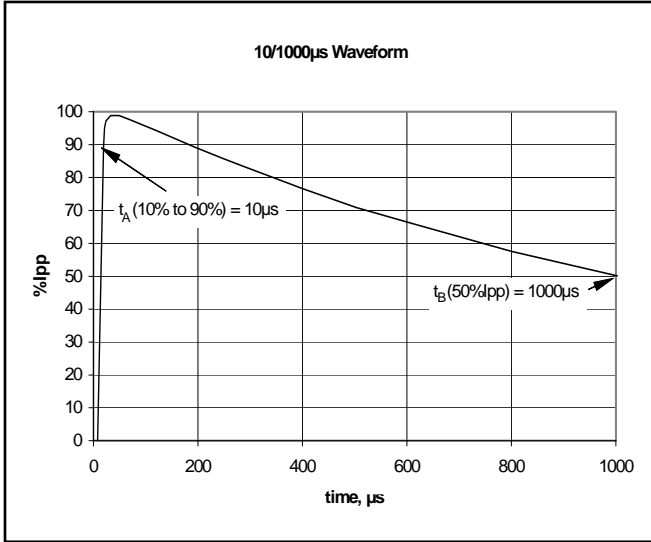
PRELIMINARY



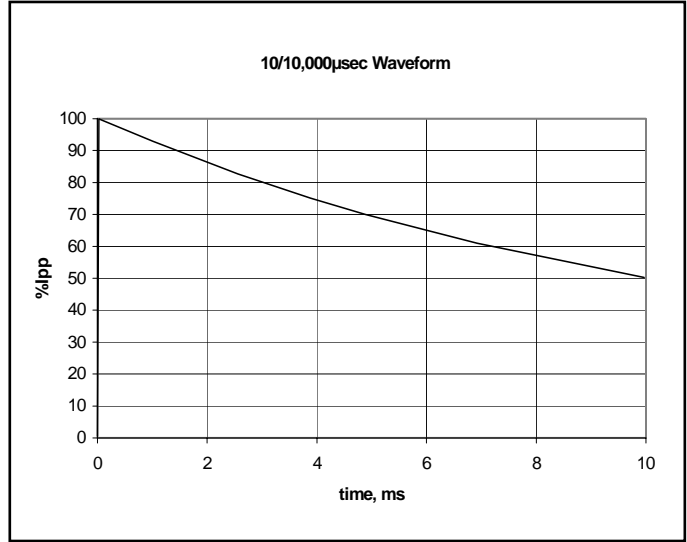
TYPICAL CHARACTERISTICS (T<sub>J</sub> = 25°C unless otherwise noted)

PRELIMINARY

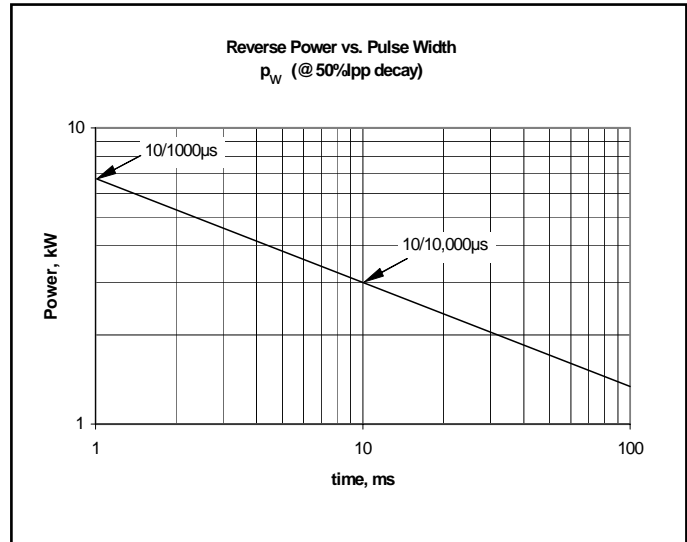
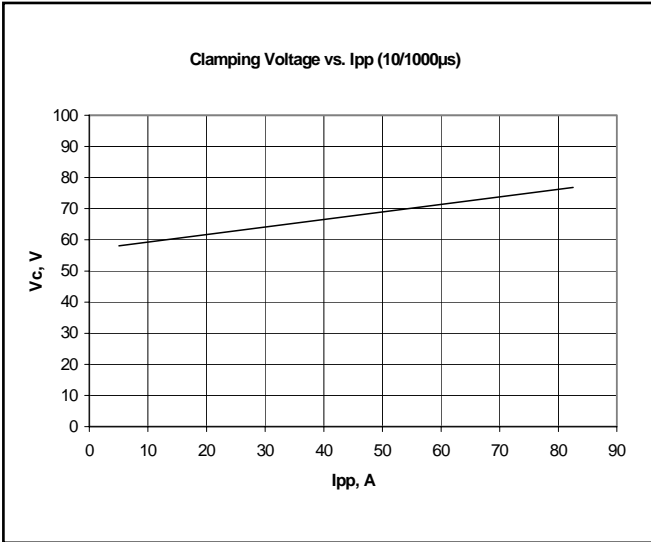
Surge Current Pulse Waveform 10/1000μs



Load Dump Power Characteristics (10ms Exponential Waveform)



Reverse Power Capability



Package Dimensions and Suggested pad layout

TO-263 / D2PAK Units: inch (mm)

PRELIMINARY

