

## POWER DISCRETES

### Description

The 1N64xx series of transient voltage suppressors are designed to protect military and commercial electronic equipment from overvoltages caused by lightning, ESD, EFT, inductive load switching, and EMP. These devices are constructed using a p-n junction TVS diode in a hermetically sealed, voidless glass package. The hermetically sealed package provides high reliability in harsh environmental conditions. TVS diodes are further characterized by their high surge capability, low operating and clamping voltages, and a theoretically instantaneous response time. This makes them ideal for use as board level protection for sensitive semiconductor components. These devices are DSCC QPL qualified to MIL-PRF-19500/552.

### Features

- ◆ 1500 Watts peak pulse power (tp = 10/1000µs)
- ◆ Voidless hermetically sealed glass package
- ◆ Metallurgically bonded
- ◆ High surge capacity
- ◆ Unidirectional
- ◆ Available in JAN, JTX, and JTXV versions per MIL-PRF-19500/552

### Applications

- ◆ Aerospace and industrial electronics
- ◆ Board level protection
- ◆ Airborne systems
- ◆ Shipboard systems
- ◆ Ground systems

### Mechanical Characteristics

- ◆ Hermetically sealed glass package

### Absolute Maximum Ratings

Rating	Symbol	Value	Units
Peak Pulse Power (tp = 10 x 1000µs)	Ppk	1500	Watts
Operating Temperature Range	Tj	-65 to +175	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +175	°C
Steady-State Power Dissipation @ TL = 75°C (3/8")	PD	5	Watts

### Electrical Characteristics

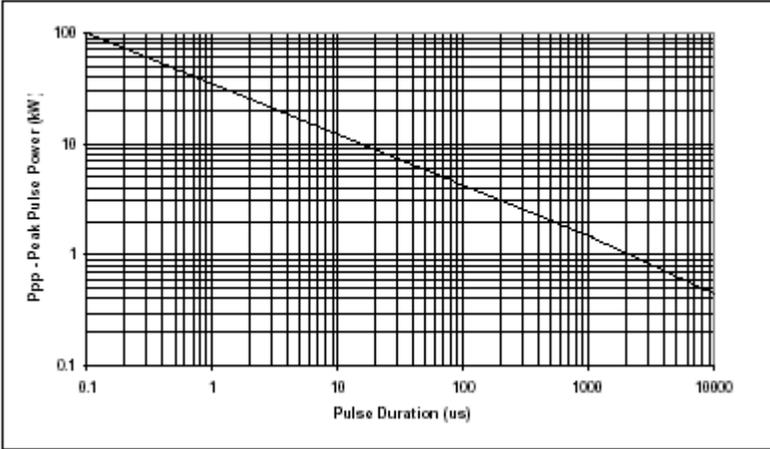
Electrical specifications @ T<sub>a</sub> = 25°C unless otherwise specified.

Device Type	Reverse Standoff Voltage V <sub>RWM</sub>	Reverse Leakage Current I <sub>R</sub>	Minimum Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub>	Test Current I <sub>T</sub>	Maximum Clamping Voltage V <sub>C</sub> @ I <sub>PP</sub>	Peak Pulse Current I <sub>PP</sub> T <sub>P</sub> = 1mS	Peak Pulse Current I <sub>PP</sub> T <sub>P</sub> = 20µS	Temp. Coef. of V <sub>BR</sub> αV <sub>Z</sub>
	V	µA	V	mA	V	A	A	%/°C
1N6469	5	1500	5.6	50	9	167	945	0.040
1N6470	6	1000	6.5	50	11.0	137	775	0.040
1N6471	12	20	13.6	10	22.6	66	374	0.050
1N6472	15	10	16.4	10	26.5	57	322	0.060
1N6473	24	5	27.0	5	41.4	36.5	206	0.084
1N6474	30.5	5	33.0	1	47.5	32	190	0.093
1N6475	40.3	5	43.7	1	63.5	24	136	0.094
1N6476	51.6	5	54.0	1	78.5	19	106	0.096

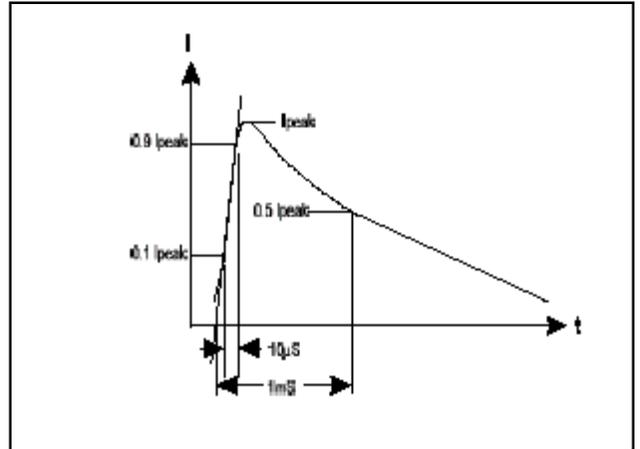
**POWER DISCRETES**

Electrical Characteristics

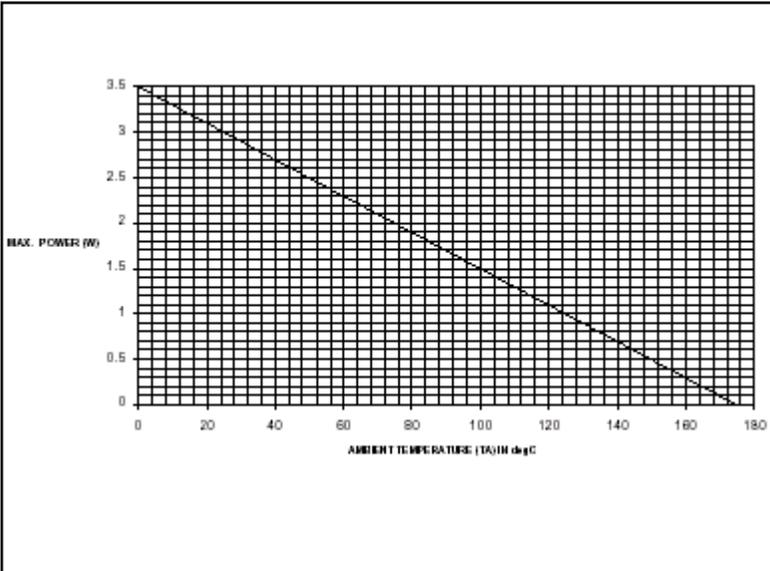
PEAK PULSE POWER vs. PULSE TIME



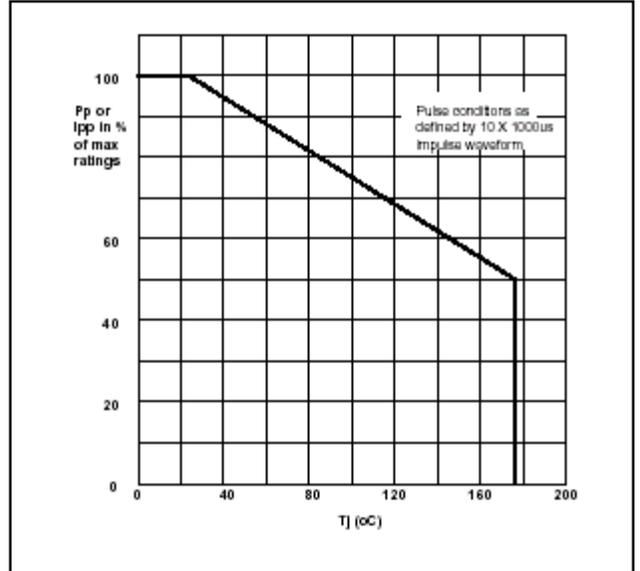
10 x 1000µs IMPLUSE WAVEFORM



STEADY STATE DERATING CHARACTERISTICS FOR FREE AIR MOUNTING



PULSE DERATING CURVE



**POWER DISCRETES**

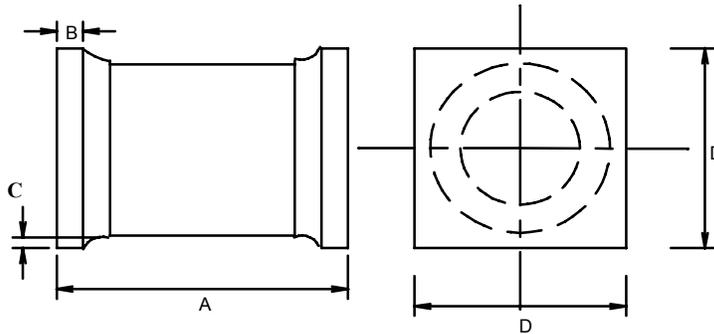
**Ordering Information**

Part Number	Description
1N6469US, 1N6470US, 1N6471US, 1N6472US, 1N6473US, 1N6474US, 1N6475US, 1N6476US	Surface Mount (US) <sup>(1)</sup>

Note:

(1) Available in trays and tape and reel packaging. Please consult factory for quantities.

**Outline Drawing**



	Dimensions	
	1N6469US - 1N6476US	
	Inches	
	MIN	MAX
A	0.205	0.245
B	0.019	0.028
C	0.003	-
D	0.183	0.202

**Contact Information**

Semtech Corporation  
 Power Discrettes Products Division  
 200 Flynn Road, Camarillo, CA 93012  
 Phone: (805)498-2111 FAX (805)498-3804

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

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[1N6476US](#) [1N6470US](#) [1N6475US](#) [1N6474US](#) [1N6472US](#) [1N6469US](#) [1N6473US](#) [1N6471US](#)