

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 ($t_p = 10/1000\mu s$)
- ◆ 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 ($t_p = 10 \times 1000\mu s$)	Ppk	1500	Watts
Operating Temperature Range	T _j	-65 to +175	°C
Storage Temperature Range	T _{STG}	-65 to +175	°C
Steady-State Power Dissipation @ TL = 75°C (3/8")	PD	5	Watts

Electrical Characteristics

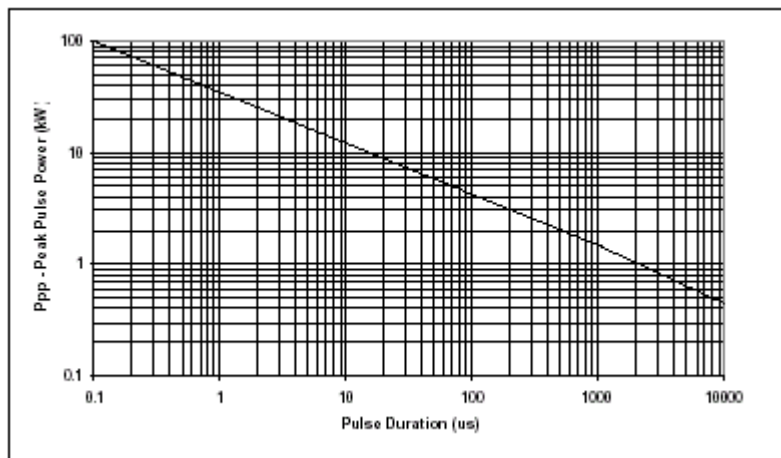
Electrical specifications @ T_A = 25°C unless otherwise specified.

Device Type	Reverse Standoff Voltage V _{RWM}	Reverse Leakage Current I _R	Minimum Breakdown Voltage V _{BR} @ I _T	Test Current I _T	Maximum Clamping Voltage V _C @ I _{PP}	Peak Pulse Current I _{PP} T _p = 1mS	Peak Pulse Current I _{PP} T _p = 20μS	Temp. Coef. of V _{BR} αV _Z
	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

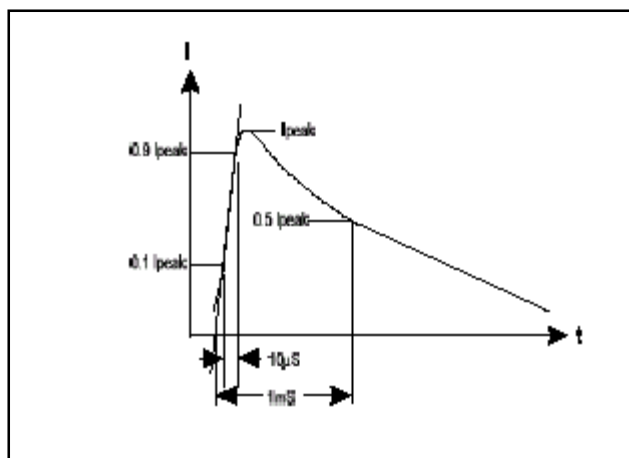
POWER DISCRETES

Electrical Characteristics

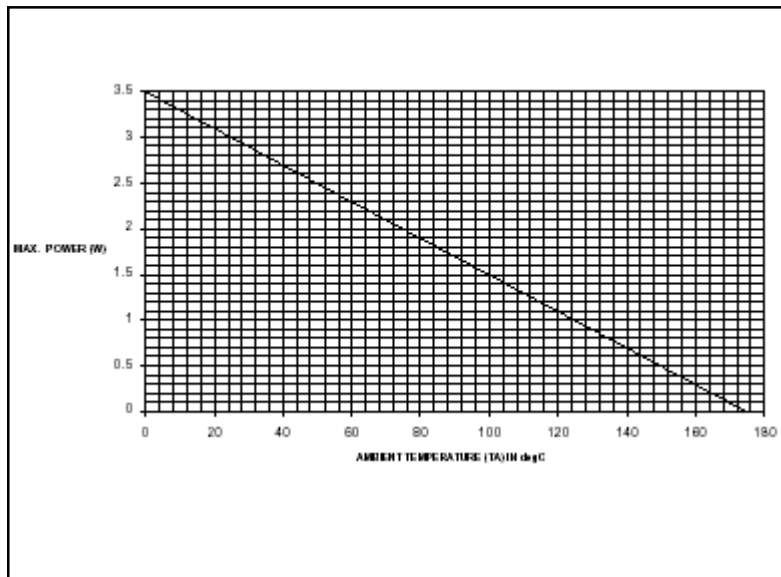
PEAK PULSE POWER vs. PULSE TIME



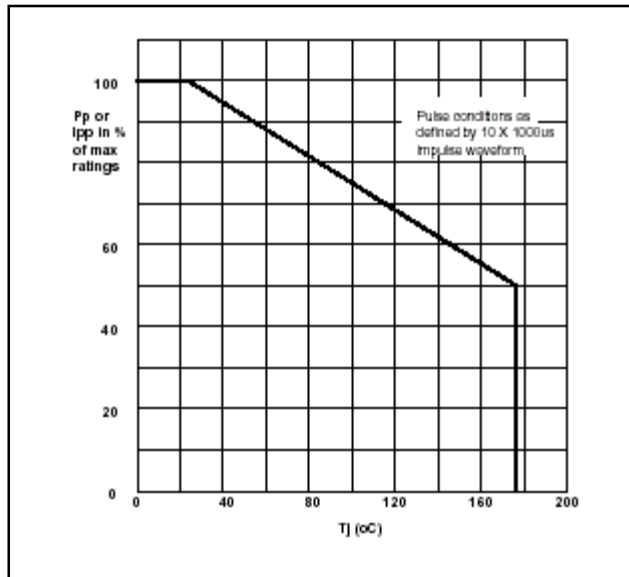
10 x 1000μs IMPLUSE WAVEFORM



STEADY STATE DERATING CHARACTERISTICS
FOR FREE AIR MOUNTING



PULSE DERATING CURVE

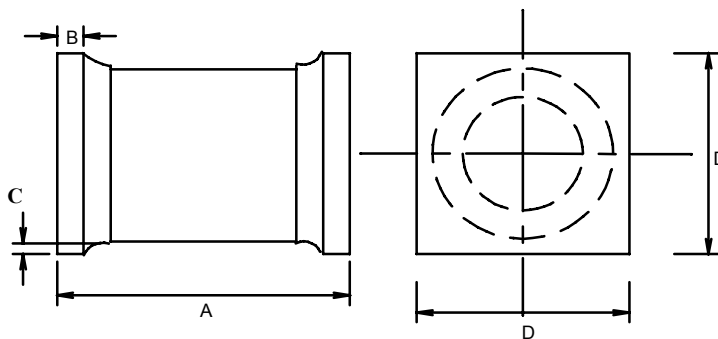


POWER DISCRETES
Ordering Information

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

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 Discretes 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:

Semtech:

[JAN1N6469US](#) [JANTX1N6474US](#) [JANTX1N6473US](#) [JAN1N6474US](#) [JANTXV1N6471US](#) [JAN1N6470US](#)
[JANTXV1N6475US](#) [JAN1N6472US](#) [JANTXV1N6473US](#) [JANTXV1N6470US](#) [JANTX1N6476US](#) [JANTX1N6470US](#)
[JANTX1N6469US](#) [JANTXV1N6472US](#) [JANTXV1N6474US](#) [JANTX1N6475US](#) [JAN1N6471US](#) [JAN1N6475US](#)
[JANTXV1N6469US](#) [JAN1N6473US](#) [JANTX1N6472US](#) [JAN1N6476US](#) [JANTXV1N6476US](#) [JANTX1N6471US](#)