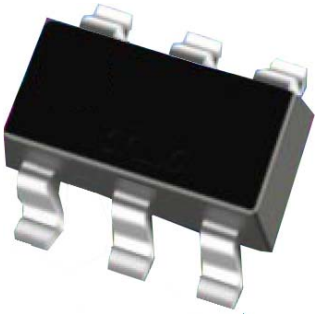
PDWL050019

Low Capacitance TVS Diode Array

FEATURES

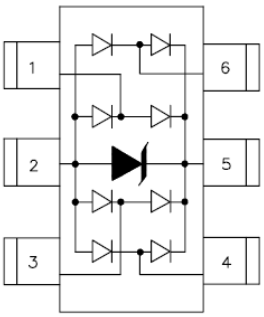
SOT23-6L



- ESD protection for high-speed data lines to
  IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
  IEC 61000-4-4 (EFT) 40A (5/50ns)
  IEC 61000-4-5 (Lightning) 12A (8/20μs)
- Array of surge rated diodes with internal TVS Diode
- Small package saves board space
- Protects four I/O lines
- Low capacitance: 3pF typical
- Low clamping voltage
- Low operating voltage: 5.0V
- Solid-state silicon-avalanche technology

APPLICATIONS

- USB 2.0 Power and Data Line Protection
- Video Graphics Cards
- Monitors and Flat Panel Displays
- Digital Video Interface (DVI)
- 10/100/1000 Ethernet
- Notebook Computers
- SIM Ports
- ATM Interfaces
- IEEE 1394 Firewire Ports



DEVICE CHARACTERISTICS

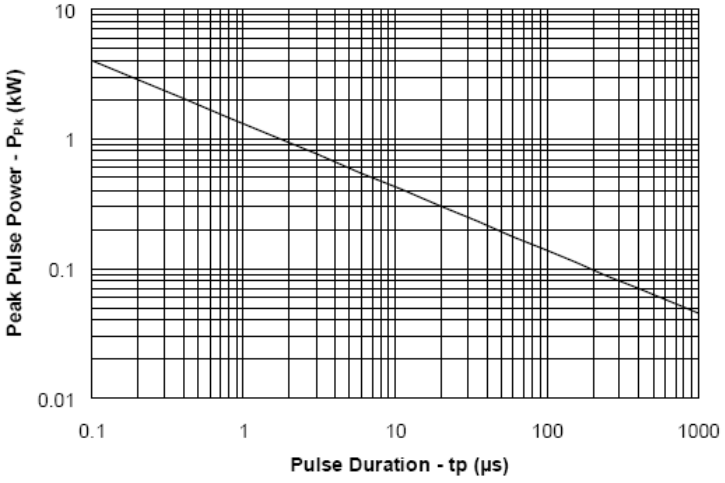
Absolute Maximum Rating			
Rating	***Symbol***	***Value***	***Units***
Peak Pulse Power (tp = 8/20μs)	P_{pk}	350	Watts
Peak Pulse Current (tp = 8/20μs)	I_{PP}	12	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	15 8	kV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature	T_J	-55 to +125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Electrical Characteristics(Tamb=25℃)

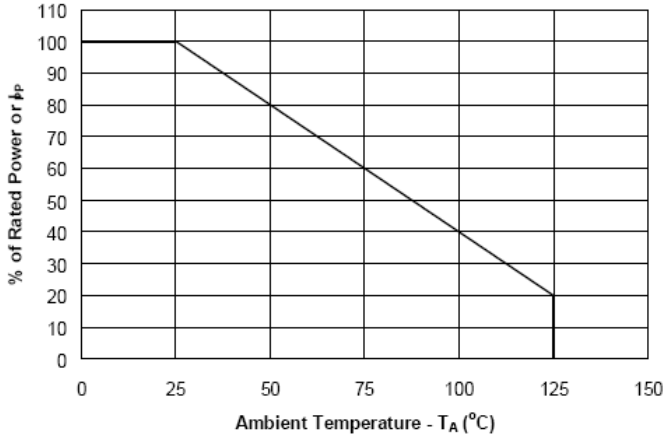
Parameter	*Symbol*	*Conditions*	*Minimum*	*Typical*	*Maximum*	*Units*
Reverse Stand-Off Voltage	V_{RWM}	Pin 5 to 2			5	V
Reverse Breakdown Voltage	V_{BR}	I_t = 1mA Pin 5 to 2	6			V
Reverse Leakage Current	I_R	V_{RWM} = 5V, T=25℃ Pin 5 to 2			5	μA
Forward Voltage	V_F	I_f =15mA			1.2	V
Clamping Voltage	V_C	I_{PP} = 1A, tp = 8/20μs Any I/O pin to Ground			12.5	V
Clamping Voltage	V_C	I_{PP} = 5A, tp = 8/20μs Any I/O pin to Ground			17.5	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz Any I/O pin to Ground		3	5	pF
		V_R = 0V, f = 1MHz Between I/O pins		1.5		pF

Electrical Characteristics Curve

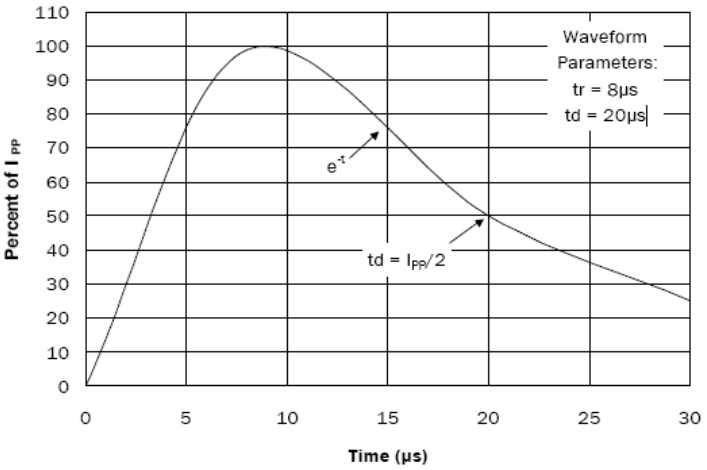
Non-Repetitive Peak Pulse Power vs. Pulse Time



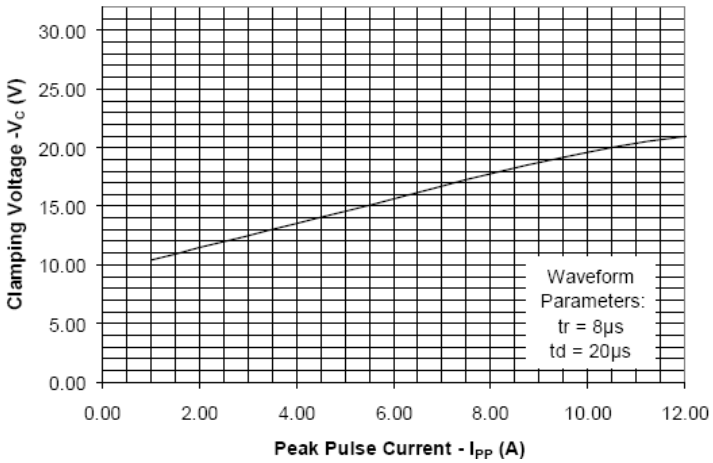
Power Derating Curve



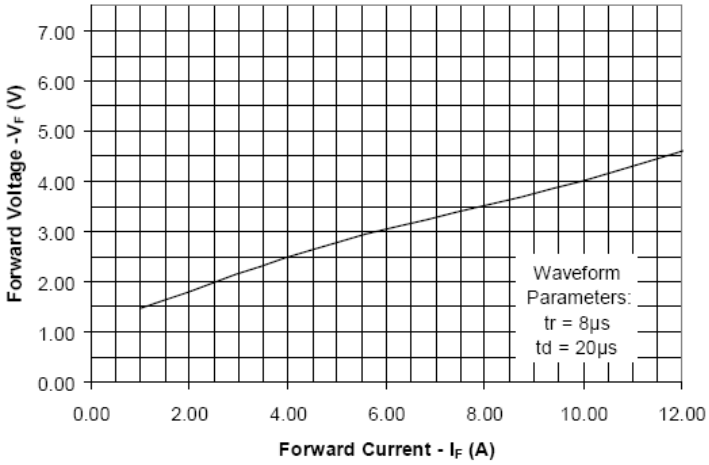
Pulse Waveform



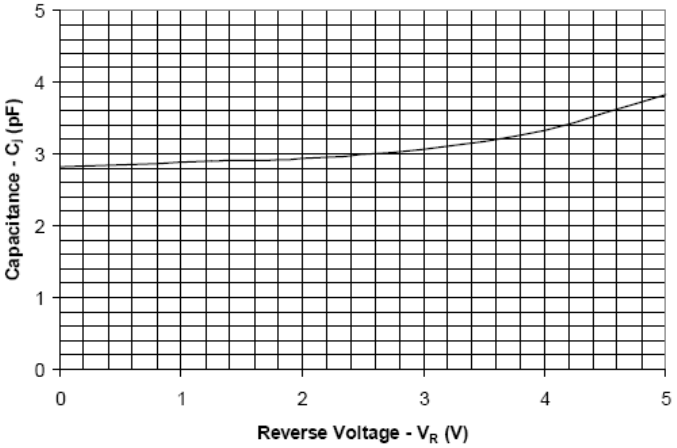
Clamping Voltage vs. Peak Pulse Current



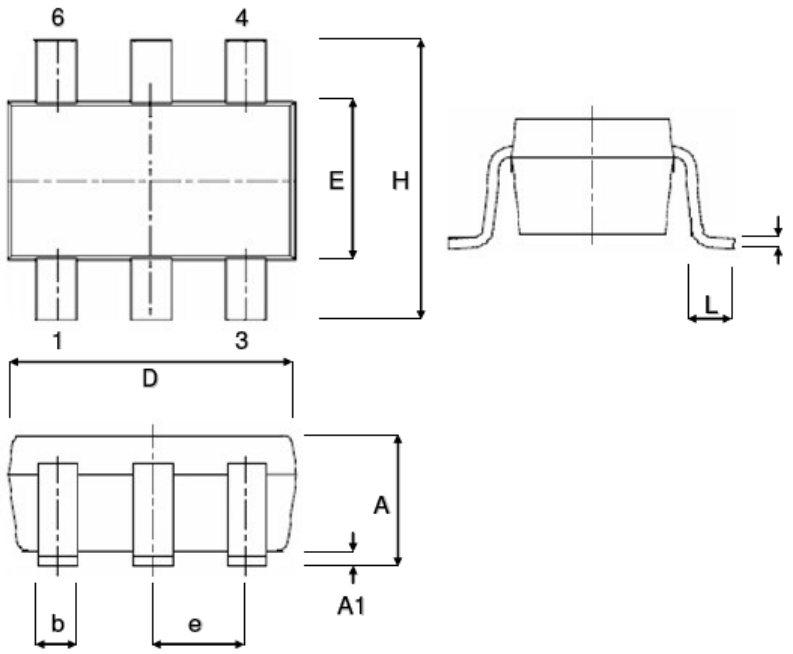
Forward Voltage vs. Forward Current



Capacitance vs. Reverse Voltage



PACKAGE OUTLINE & DIMENSIONS (SOT23-6L)



Symbol	Dimension in MM		Dimension in inch	
	Min.	Max.	Min.	Max.
A	1.05	1.35	0.041	0.053
A1	0.05	0.15	0.002	0.006
b	0.30	0.50	0.012	0.020
c	0.08	0.20	0.003	0.008
D	2.80	3.00	0.110	0.118
E	1.50	1.70	0.059	0.067
e	0.95 BSC		0.0374 BSC	
H	2.60	3.00	0.102	0.118
L	0.35	0.55	0.014	0.022