

➤ General Description

The PAE5V0N02LAW is designed with latest process TVS technology to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

It has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

➤ Feature

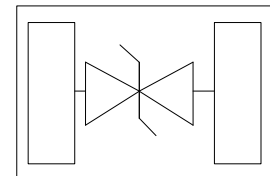
- Peak Power Dissipation – 40W (8 x 20 us Waveform)
- Stand-off Voltage: 5.0V
- Low capacitance (<9.0pF) for high-speed interfaces
- No insertion loss to 1GHz
- Protects I/O Port
- Low Clamping Voltage
- Low Leakage
- Meets MSL 1 Requirements
- ROHS compliant

➤ DFN0603-2



➤ Application

- High Speed Line : USB1.0/2.0,VGA
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals



➤ Protection solution to meet

- IEC61000-4-2 (ESD) ±20kV (air), ±20kV (contact)

➤ **Maximum Ratings (TA=25°C Unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20µs waveform)	PPPP	40	Watts
ESD Rating per IEC61000-4-2:	Contact	20	KV
	Air	20	
Lead Soldering Temperature	TL	260 (10 sec.)	°C
Operating Temperature Range	Tj	-55 ~ 150	°C
Storage Temperature Range	TSTG	-55 ~ 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

*Other voltages may be available upon request.

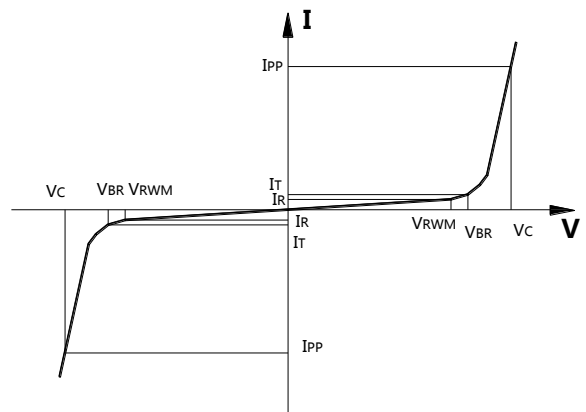
1. Non-repetitive current pulse, per Figure 1.

➤ **Electrical Characteristics (TA=25°C Unless otherwise specified)**

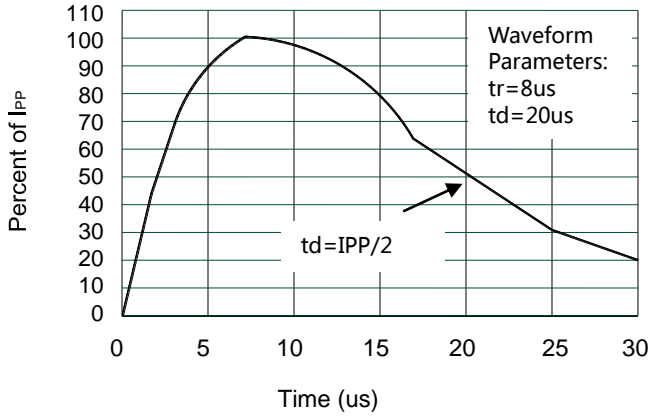
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
VRWM	Reverse Working Voltage				5.0	V
VBR	Breakdown Voltage	IT = 1mA	6.0			V
IR	Reverse Leakage Current	VRWM = 5V			0.1	uA
VC	Clamping Voltage	IPP = 1A, tp =8/20µs		8.5		V
		IPP = 5A, tp =8/20µs		9.6	12.5	V
Cj	Junction Capacitance	VR = 0V, f = 1MHz, between I/O & GND pin		5.5	9.0	pF

Junction capacitance is measured in VR=0V,F=1MHz

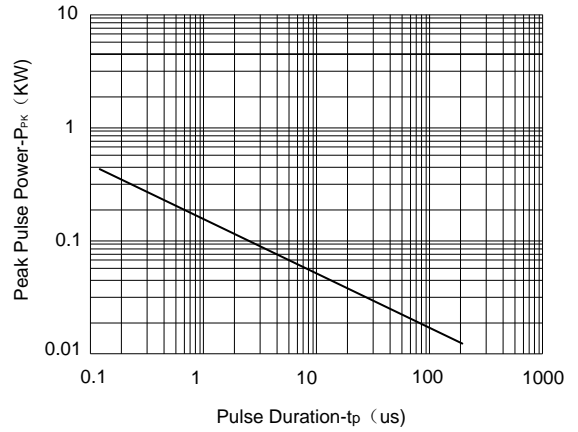
Symbol	Parameter
VRWM	Working Peak Reverse Voltage
VBR	Breakdown Voltage @ IT
VC	Clamping Voltage @ IPP
IT	Test Current
IRM	Leakage current at VRWM
IPP	Peak pulse current
CO	Off-state Capacitance
Cj	Junction Capacitance



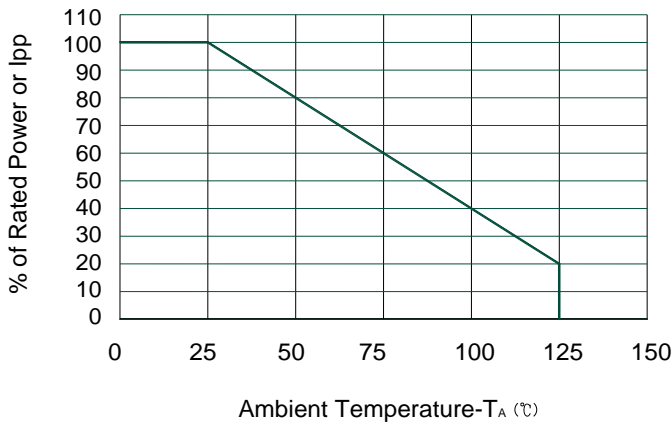
➤ Typical Characteristics



Pulse Waveform



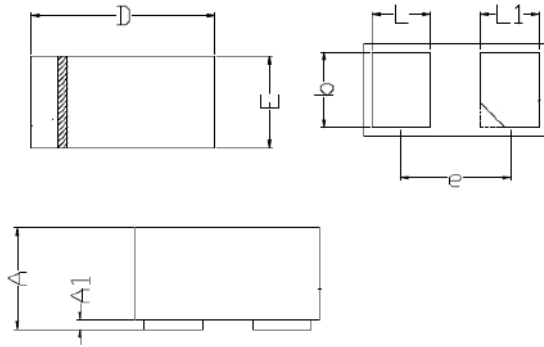
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve

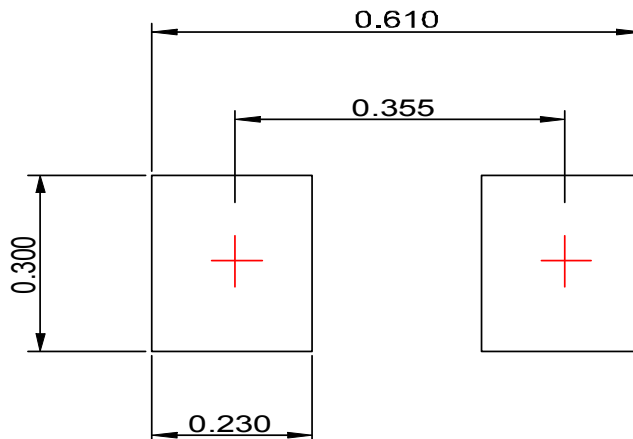
➤ Package Information (DFN0603-2)

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.230	0.330
A1	0.000	0.050
A3	0.102REF	
D	0.550	0.650
E	0.250	0.350
b	0.215	0.275
L	0.115	0.175
L1	0.115	0.175
e	0.40BSC	

Recommended Pad outline



➤ Ordering Information

Part Number	Description	Quantity
PAE5V0N02LAW	DFN0603-2 Reel	15000 pcs

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