600 WATT TVS COMPONENT

DO-214AA PACKAGE

APPLICATIONS

- Automotive

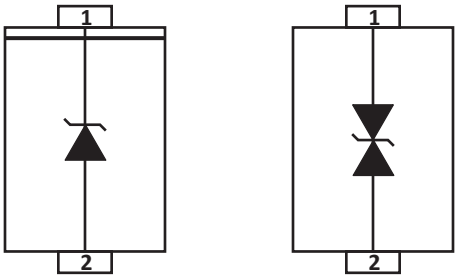
FEATURES

- ***AEC-Q101 Qualified***
- Compatible with IEC 61000-4-2 (ESD): Level 4 - Air 15kV, Contact 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 8/20µs Waveform
- Glass Passivated Chip
- 600 Watts Peak Pulse Power per Line (tp = 10/1000µs)
- Low Leakage Current
- Bidirectional and Unidirectional Configurations
- Excellent Clamping Capability
- Very Fast Response Time
- Available in Multiple Voltages
- RoHS Compliant

MECHANICAL CHARACTERISTICS

- Molded JEDEC DO-214AA Package
- Approximate Weight: 0.103 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
  Pure-Tin - Sn, 100: 260-270°C
- 12mm Tape and Reel Per EIA Standard 481
- Terminal: Solderable per MIL-STD-750, Method 2026
- Flammability Rating UL 94V-0

PIN CONFIGURATIONS



TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	**SYMBOL**	**VALUE**	**UNITS**
Operating Temperature	T_J	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	°C/W
Peak Pulse Power (tp =10/1000µs) - See Figure 1 and Note 1	P_{PP}	600	Watts
Power Dissipation on Infinite Heatsink at T_L = 75°C	P_D	5.0	Watts
Peak Forward Surge Current, 8.3ms single half sinewave - Unidirectional Only (Note 2)	I_{FSM}	100	Amps
Maximum Instantaneous Forward Voltage at 25A - Unidirectional Only	V_F	5.0	V

NOTE
1. Non-repetitive current pulse per Figure 2 and derated above T_A = 25°C per Figure 3.
2. Measured on 8.3ms single half sinewave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

TYPICAL DEVICE CHARACTERISTICS

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified									
PART NUMBER (Notes 1-3)	DEVICE MARKING		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS		TEST CURRENT	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I_P	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT @V_{RWM}
	UNI	BI	V_{RWM} VOLTS	MIN	MAX	@ I_T mA	V_C VOLTS	@I_{PP} AMPS	I_R µA
PAM30DOAA6.8A	6V8A	6V8C	5.8	6.46	7.14	10	10.5	57.14	1000
PAM30DOAA7.5A	7V5A	7V5C	6.4	7.13	7.88	10	11.3	53.10	500
PAM30DOAA13A	13A	13C	11.1	10.5	11.6	1	18.2	33.5	1
PAM30DOAA15A	15A	15C	12.8	14.25	15.75	1	21.2	28.30	1
PAM30DOAA18A	18A	18C	15.3	17.10	18.90	1	25.2	23.81	1
PAM30DOAA22A	22A	22C	18.8	20.9	23.10	1	30.6	19.7	1
PAM30DOAA24A	24A	24C	20.5	22.8	25.2	1	33.2	18.4	1
PAM30DOAA27A	27A	27C	23.1	25.65	28.35	1	37.5	16.00	1
PAM30DOAA30A	30A	30C	25.6	28.50	31.50	1	41.4	14.49	1
PAM30DOAA33A	33A	33C	28.2	31.35	34.65	1	45.7	13.13	1
PAM30DOAA36A	36A	36C	30.8	34.2	37.80	1	49.9	12.02	1
PAM30DOAA39A	39A	39C	33.3	37.05	40.95	1	53.9	11.13	1
PAM30DOAA43A	43A	43C	36.8	40.85	45.15	1	59.3	10.12	1
PAM30DOAA56A	56A	56C	47.8	53.20	58.80	1	77.0	7.79	1
PAM30DOAA68A	68A	68C	58.1	64.60	71.40	1	92.0	6.52	1
PAM30DOAA100A	100A	100C	85.5	95	105	1	137.0	4.38	1
PAM30DOAA120A	120A	120C	102.0	114.0	126.0	1	165.0	3.7	1
PAM30DOAA200A	200A	200C	200.0	224.0	247.0	1	324.0	1.9	1
PAM30DOAA220A	220A	220C	185.0	209.0	231.0	1	328.0	1.83	1
PAM30DOAA250A	250A	250C	214.0	237.50	262.50	1	344.0	1.74	1
PAM30DOAA350A	350A	350C	299.3	332.50	367.50	1	482.0	1.24	1
PAM30DOAA400A	400A	400C	342.0	380.0	420.0	1	548.0	1.09	1
PAM30DOAA440A	440A	440C	376.2	418.0	462.0	1	607.2	0.99	1
PAM30DOAA480A	480A	480C	408.0	456.0	504.0	1	658.0	0.90	1
PAM30DOAA540A	540A	540C	460.0	513.0	567.0	1	740.0	0.80	1
PAM30DOAA550A	550A	550C	470.3	522.5	577.5	1	759.0	0.79	1
PAM30DOAA600A	600A	600C	513.0	570.00	630.00	1	828.0	0.72	1

NOTE
1. Suffix 'A' denotes 5% tolerance.
2. Add suffix CA' to specify a bidirectional device.
3. For bidirectional devices having a V_{RWM} of 10 Volts and under, the I_R limit is double.
4. Consult factory for more voltages.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

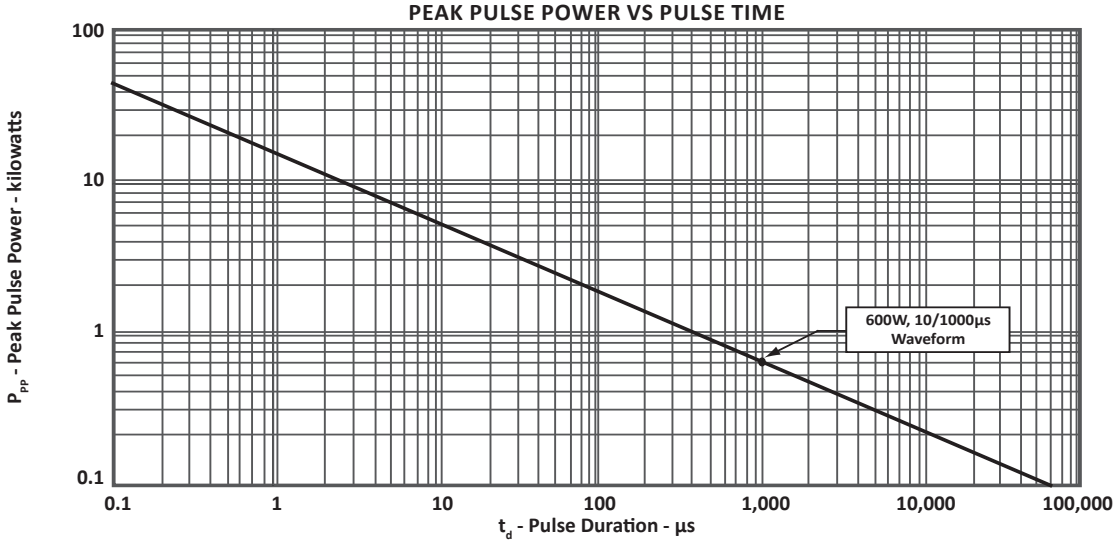


FIGURE 2
PULSE WAVEFORM

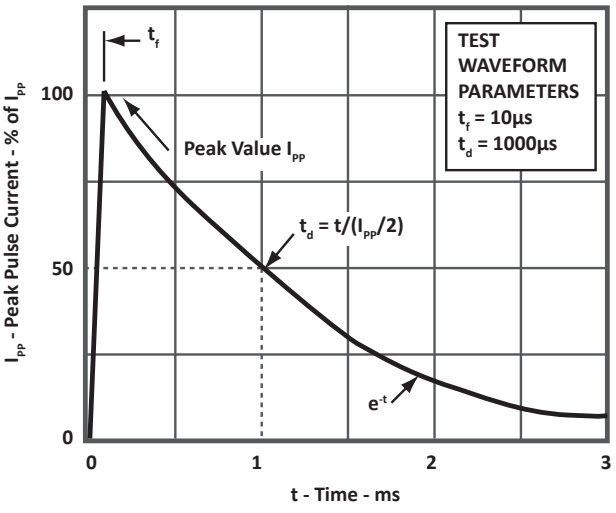
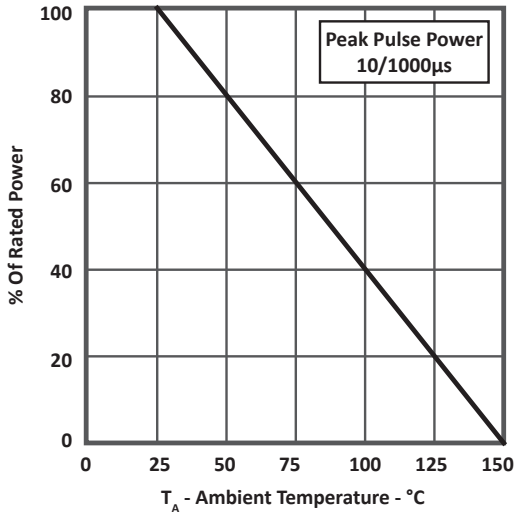


FIGURE 3
POWER DERATING CURVE



TYPICAL DEVICE CHARACTERISTICS

FIGURE 4
TYPICAL JUNCTION CAPACITANCE

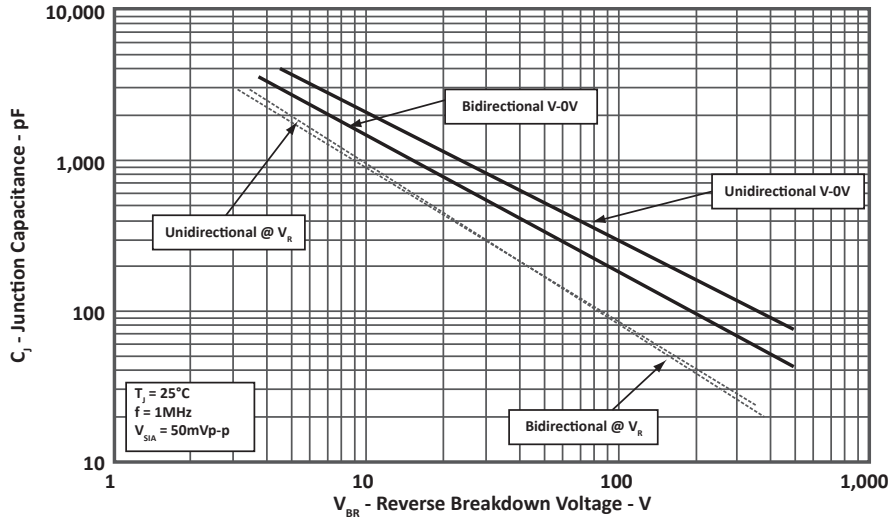


FIGURE 5
MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

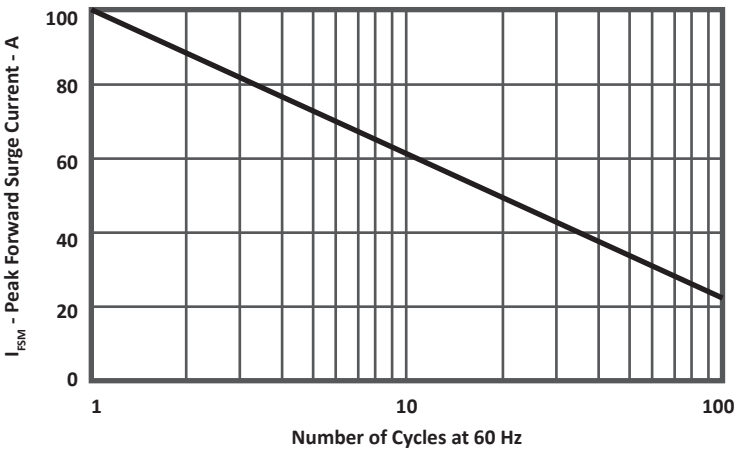
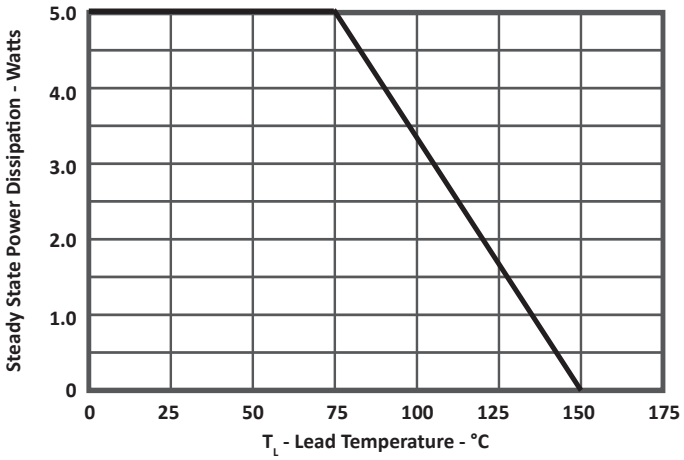


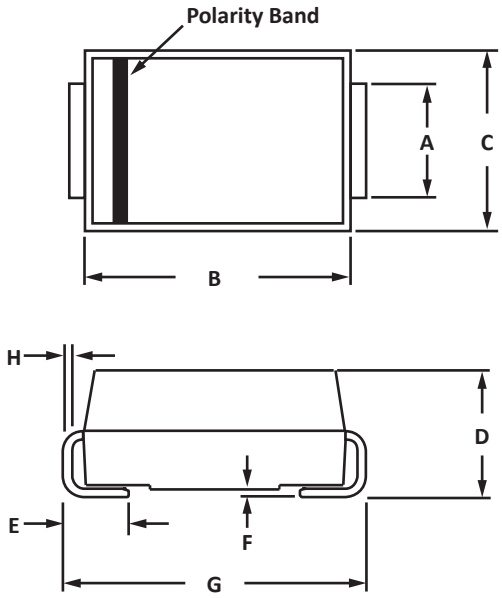
FIGURE 6
STEADY STATE POWER DERATING CURVE



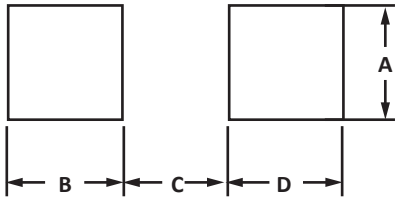
DO-214AA PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.90	2.20	0.075	0.087
B	4.30	4.80	0.169	0.189
C	3.30	3.94	0.130	0.155
D	2.10	2.40	0.083	0.094
E	0.95	1.52	0.037	0.060
F	0.051	0.203	0.002	0.008
G	5.20	5.60	0.205	0.220
H	0.15	0.31	0.006	0.012

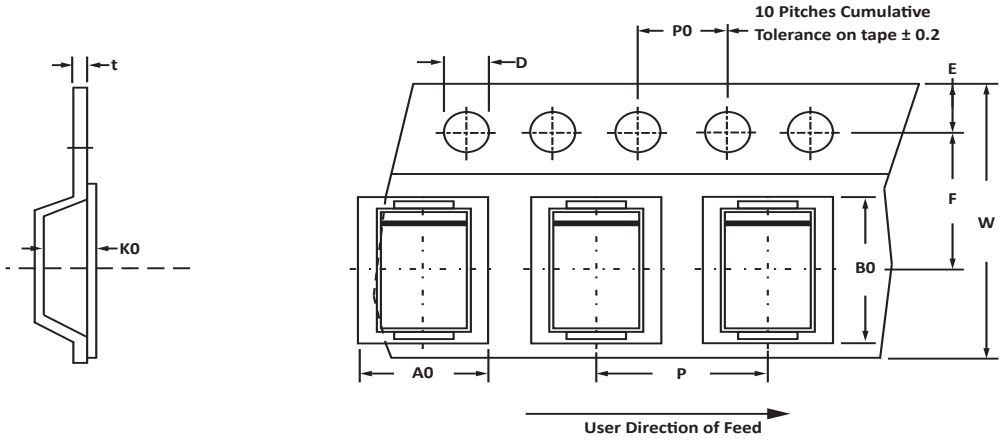
NOTES
1. Dimensions are exclusive of mold flash and metal burrs.



PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.30	-	0.091	-
B	2.20	-	0.087	-
C	-	2.60	-	0.102
D	2.20	-	0.087	-



TAPE AND REEL



SPECIFICATIONS											
REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P	tmax
330mm (13")	12mm	3.76 ± 0.3	5.69 ± 0.30	2.67 ± 0.10	1.55 ± 0.10	1.75 ± 0.20	5.5 ± 0.2	12.00 ± 0.20	4.00 ± 0.20	8.00 ± 0.20	0.4

NOTES
1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Marking on Part - marking code (see page 2), date code, logo and cathode defined by polarity band.

ORDERING INFORMATION					
BASE PART NUMBER (XX = VOLTAGE)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PAM30DOAAxxA/CA	N/A	-T13	3,000	13"	N/A
This device is only available in a Lead-Free configuration.					

COMPANY INFORMATION

COMPANY PROFILE

In business more than 30 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection that include Transient Voltage Suppressor (TVS) Arrays, Steering Diode Array Hybrids, High-power Components and Modules, as well as Steering Diodes, EMI Filter/TVS Arrays and Thyristor Surge Suppressors. These components deliver circuit protection in electronic systems from numerous overvoltage events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices is an ISO 9001 certified company.

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