

# MDE Semiconductor, Inc.

78-150 Calle Tampico, Unit 210, La Quinta, CA. U.S.A. 92253 Tel: 760-564-8656 • Fax: 760-564-2414

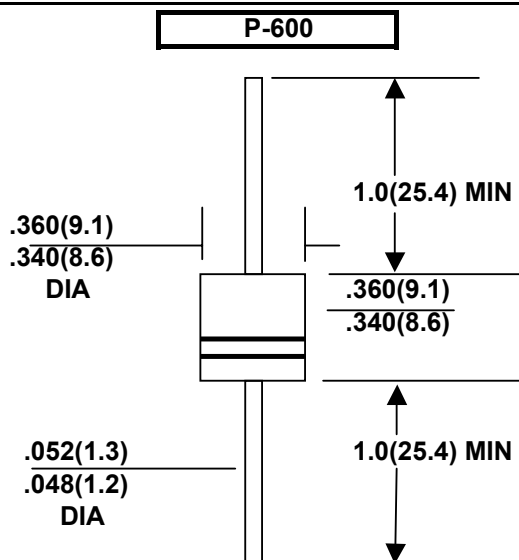
## 30KW SERIES

### GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE-30.0 TO 288 Volts  
30000 Watt Peak Pulse Power

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- 30000W Peak Pulse Power capability on 10/1000  $\mu$ s waveform
- Excellent clamping capability
- Repetition rate (duty cycle):0.05%
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV
- Typical  $I_d$  less than 1 $\mu$ A above 10V
- High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension



Dimensions in inches (millimeters)

#### MECHANICAL DATA

Case: Molded plastic over glass passivated junction

Terminals: Plated Axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denoted positive end (cathode) except Bipolar

Mounting Position: Any

Weight: 0.07 ounce, 2.1 gram

#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 30KW30 thru types 30KW288

Electrical characteristics apply in both directions.

#### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform (NOTE 1)	Pppm	Minimum 30000	Watts
Peak Pulse Current of on 10-1000 $\mu$ s waveform (NOTE 1)	Ippm	SEE TABLE 1	Amps
Steady State Power Dissipation at $T_I=75^\circ\text{C}$ Lead Lengths .375", (9.5mm)(NOTE 2)	Pm(AV)	8.0	Watts
Peak Forward Surge Current, 8.3ms Sine-Wave Superimposed on Rated Load, (JEDEC Method) (NOTE 3)	IFSM	400.0	Amps
Operating and Storage Temperature Range	Tj, Tstg	-55 to +175	°C

#### NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_a=25^\circ\text{C}$  per Fig.2.

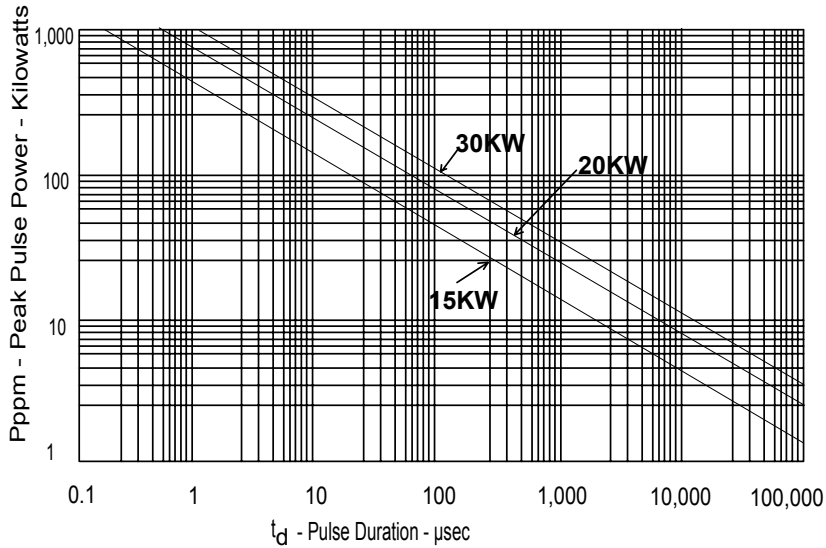
2. Mounted on Copper Pad area of 0.8x0.8" (20x20mm) per Fig.5.

3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum

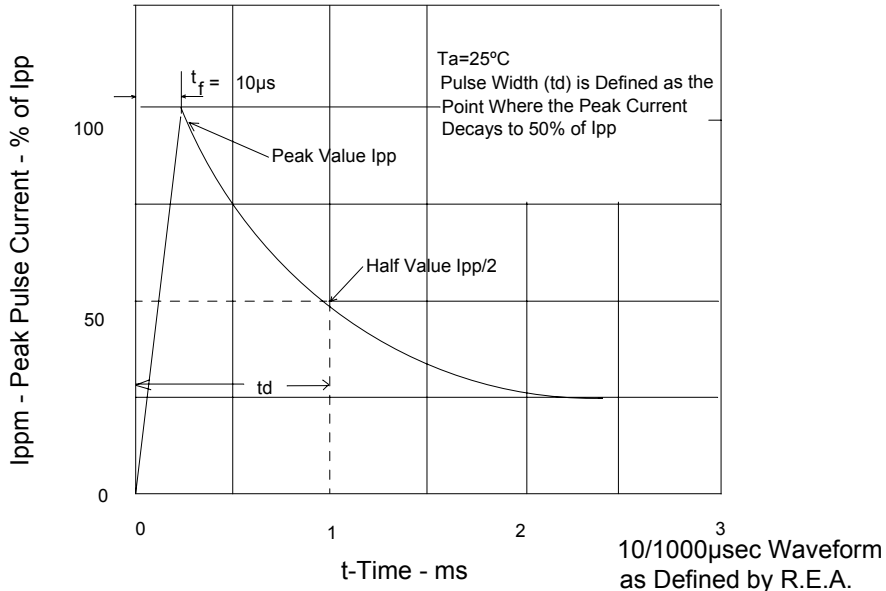
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1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

## **RATING AND CHARACTERISTICS CURVES 15KW, 20KW, 30KW SERIES**



**FIG. 1 PEAK PULSE POWER RATING CURVE**



**FIG. 2 PULSE WAVE FORM**

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## 30000 Watt TVS

UNI-DIRECTIONAL PART NUMBER	REVERSE STANDOFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @ IT	BREAKDOWN VOLTAGE VBR (V) MAX. @ IT	TEST CURRENT (It) mA	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @ VRWM IR (µA)
30KW30	30.00	38.40	43.80	50	57.5	522.0	5000
30KW30A	30.00	38.40	42.00	50	55.1	544.0	5000
30KW36	36.00	40.02	48.90	50	68.3	439.0	5000
30KW36A	36.00	40.02	44.22	50	61.7	486.0	5000
30KW39	39.00	43.32	52.92	50	73.7	407.0	2000
30KW39A	39.00	43.32	47.88	50	67.1	447.0	2000
30KW42	42.00	46.68	57.06	50	79.6	377.0	1000
30KW42A	42.00	46.68	51.60	50	71.9	417.0	1000
30KW45	45.00	49.98	61.20	5	85.7	350.0	250
30KW45A	45.00	49.98	55.26	5	77.3	388.0	250
30KW48	48.00	53.34	65.40	5	89.8	334.0	20
30KW48A	48.00	53.34	58.98	5	81.5	368.0	20
30KW51	51.00	56.64	69.00	5	95.2	315.0	15
30KW51A	51.00	56.64	62.40	5	86.2	348.0	15
30KW54	54.00	60.00	73.20	5	101.4	296.0	10
30KW54A	54.00	60.00	66.60	5	92.3	325.0	10
30KW60	60.00	66.60	81.60	5	112.8	266.0	10
30KW60A	60.00	66.60	73.80	5	101.7	295.0	10
30KW66	66.00	73.20	89.40	5	120.5	249.0	10
30KW66A	66.00	73.20	81.00	5	109.1	275.0	10
30KW72	72.00	79.80	97.80	5	131.6	228.0	10
30KW72A	72.00	79.80	88.20	5	119.0	252.0	10
30KW78	78.00	86.40	105.60	5	142.9	210.0	10
30KW78A	78.00	86.40	95.40	5	128.8	233.0	10
30KW84	84.00	93.60	114.60	5	154.6	194.0	10
30KW84A	84.00	93.60	103.20	5	138.9	216.0	10
30KW90	90.00	100.20	122.40	5	161.3	186.0	10
30KW90A	90.00	100.20	111.00	5	146.3	205.0	10
30KW96	96.00	106.80	130.80	5	172.4	174.0	10
30KW96A	96.00	106.80	118.20	5	155.4	193.0	10
30KW102	102.00	113.40	138.60	5	182.9	164.0	10
30KW102A	102.00	113.40	125.40	5	165.7	181.0	10
30KW108	108.00	120.00	146.40	5	193.5	155.0	10
30KW108A	108.00	120.00	132.60	5	174.4	172.0	10
30KW120	120.00	133.20	162.60	5	214.3	140.0	10
30KW120A	120.00	133.20	147.00	5	194.8	154.0	10
30KW132	132.00	146.40	178.80	5	236.2	127.0	10
30KW132A	132.00	146.40	161.40	5	212.8	141.0	10
30KW144	144.00	160.20	195.60	5	258.6	116.0	10
30KW144A	144.00	160.20	177.00	5	232.6	129.0	10
30KW156	156.00	173.40	211.80	5	280.4	107.0	10
30KW156A	156.00	173.40	191.40	5	252.1	119.0	10
30KW168	168.00	186.60	228.00	5	300.0	100.0	10
30KW168A	168.00	186.60	206.40	5	272.7	110.0	10
30KW180	180.00	199.80	244.20	5	320.5	93.6	10
30KW180A	180.00	199.80	220.80	5	291.3	103.0	10
30KW198	198.00	220.20	269.40	5	353.8	84.8	10
30KW198A	198.00	220.20	243.60	5	319.5	93.9	10

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30KW216	216.00	240.00	293.40	5	385.4	77.8	10
30KW216A	216.00	240.00	265.20	5	348.4	86.1	10
30KW240	240.00	266.40	325.80	5	428.0	70.1	10
30KW240A	240.00	266.40	294.60	5	386.6	77.6	10
30KW258	256.00	286.80	350.40	5	460.1	65.2	10
30KW258A	256.00	286.80	316.80	5	416.1	72.1	10
30KW270	280.00	300.00	366.60	5	481.5	62.3	10
30KW270A	280.00	300.00	331.80	5	436.0	68.8	10
30KW288	300.00	319.80	391.20	5	512.8	58.5	10
30KW288	300.00	319.80	353.40	5	463.7	64.7	10

For Bidirectional type having Vrwm of 10volts and less, the IR limit is double.