

# MDE Semiconductor, Inc.

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

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

## MAX™ 20 Series

### HIGH CURRENT TRANSIENT VOLTAGE SUPPRESSOR (TVS) DIODE

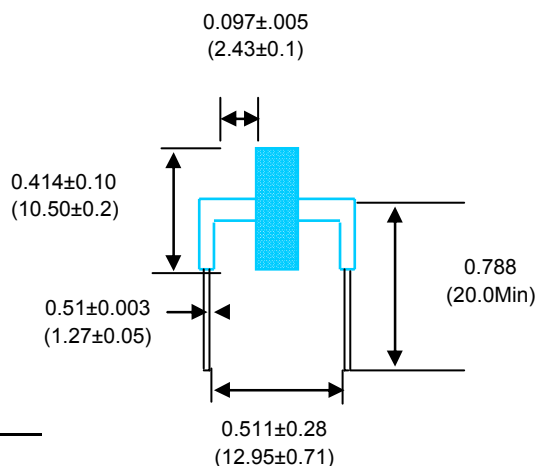
STAND-OFF VOLTAGE 5.0 to 22 Volts

20000 Watt Peak Pulse Power

#### FEATURES

- Glass passivated junction
- Bidirectional
- 20000W Peak Pulse Power capability on 10/1000  $\mu$ sec waveform
- Excellent clamping capability
- Repetition rate (duty cycle):0.05%
- Sharp breakdown voltage
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV
- Typical IR less than 20 $\mu$ A above 10V
- High temperature soldering performance.
- Operating Temp -55°C to +150°C

UNIT: Inch  
(mm)



#### MECHANICAL DATA

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

Mounting Position: Any

Weight: 1.49 ± 0.149g (0.053 ± 0.005 ounces)

#### DEVICES FOR BIPOLAR APPLICATIONS

Bidirectional use CA Suffix. Electrical characteristics apply in both directions.

Unidirectional A Suffix available as a special order

#### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10x1000 $\mu$ sec waveform	Pppm	Minimum 20000	Watts
Peak Pulse Current of on 10-1000 $\mu$ sec waveform	Ippm	SEE CURVE	Amps

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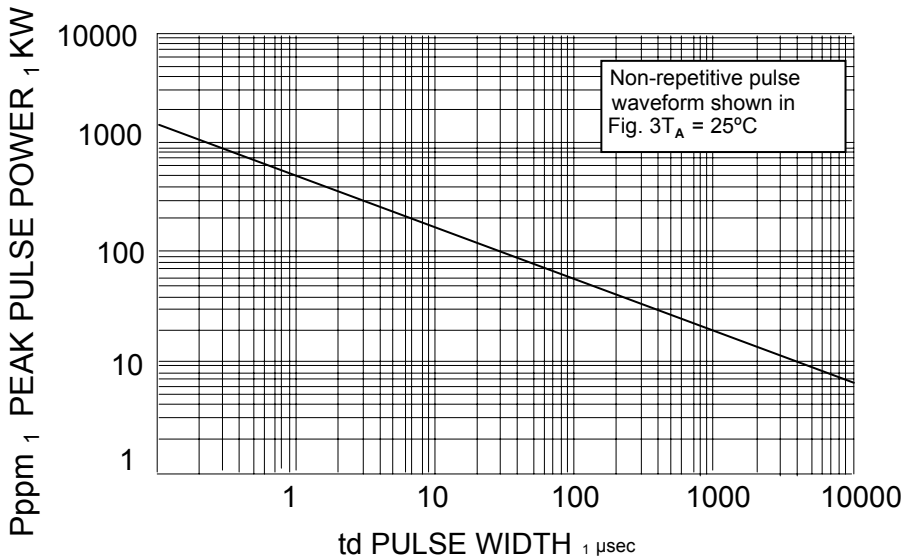
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## **MAX-20™ Series**

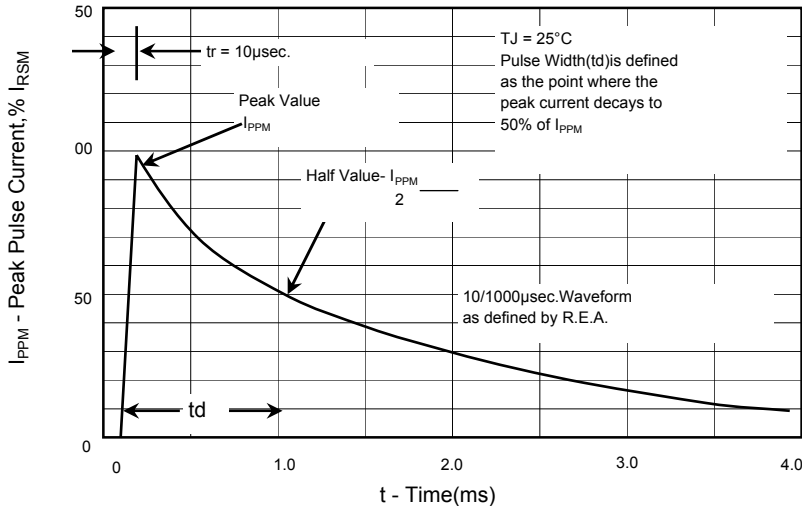
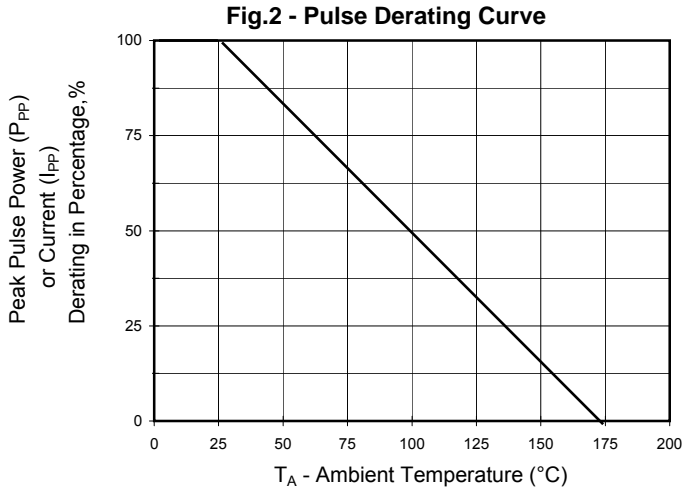
BI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM(V)	BREAKDOWN VOLTAGE VBR(V) MIN@IT	BREAKDOWN VOLTAGE VBR(V) MAX@IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT IPP(A)	REVERSE LEAKAGE @VRWM IR(μA)
MAX 20-5.0CA	5.00	6.40	7.00	50	9.2	2173.90	5000
MAX 20-6.0CA	6.00	6.67	7.37	50	10.3	1941.70	5000
MAX 20-6.5CA	6.50	7.22	7.98	50	11.2	1785.70	5000
MAX 20-7.0CA	7.00	7.78	8.60	50	12.0	1666.70	2000
MAX 20-7.5CA	7.50	8.33	9.21	5.0	12.9	1550.40	500
MAX 20-8.0CA	8.00	8.89	9.83	5.0	13.6	1470.60	200
MAX 20-8.5CA	8.50	9.44	10.40	5.0	14.4	1388.90	50
MAX 20-9.0CA	9.00	10.00	11.10	5.0	15.4	1298.70	20
MAX 20-10.0CA	10.00	11.10	12.30	5.0	17.0	1176.50	20
MAX 20-11.0CA	11.00	12.20	13.50	5.0	18.2	1098.90	20
MAX 20-12.0CA	12.00	13.30	14.70	5.0	19.9	1005.00	20
MAX 20-14.0CA	14.00	15.60	17.20	5.0	23.2	862.07	20
MAX 20-15.0CA	15.00	16.70	18.50	5.0	24.4	819.67	20
MAX 20-16.0CA	16.00	17.80	19.70	5.0	26.0	769.23	20
MAX 20-17.0CA	17.00	18.90	20.90	5.0	27.6	724.64	20
MAX 20-18.0CA	18.00	20.00	22.10	5.0	29.2	684.93	20
MAX 20-20.0CA	20.00	22.20	24.50	5.0	32.4	617.28	20
MAX 20-22.0CA	22.00	24.40	26.90	5.0	35.5	563.38	20

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## Rating and Characteristic Curves



**FIG. 1 PEAK PULSE POWER RATING**



**Fig.3 - Pulse Waveform**