

# MDE Semiconductor, Inc.

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## ICTE5.0 to ICTE15C MPTE-5 to MPTE-45 1N6373 to 1N6381 and 1N6382 to 1N6389

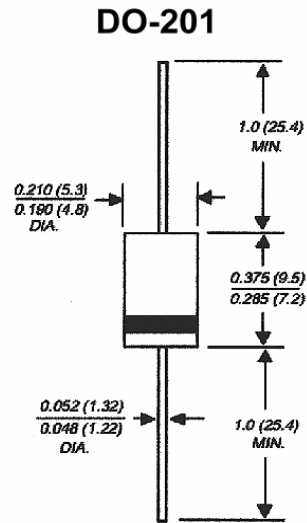
### GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR STANDOFF VOLTAGE- 5.0 to 45.0V 1500 Watt Peak Power

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94 V-O
- Glass passivated chip junction in Molded Plastic package
- 1500W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min.
- Typical IR less than 1µA above 10V
- High temperature soldering guaranteed: 250°C/10 seconds/ .375", (9.5mm) lead length, 5lbs., (2.3kg) tension
- Includes 1N6373 thru 1N6385

#### MECHANICAL DATA

Case: JEDEC DO-201 Molded plastic  
 Terminals: Plated Axial leads, solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denoted positive end (cathode) except Bipolar  
 Mounting Position: Any  
 Weight: 0.045 ounces, 1.2 grams



*Dimensions in inches and (millimeters)*

#### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation at TA = 25 °C, TP = 1ms (NOTE 1)	P <sub>PPM</sub>	Minimum 1500	Watts
Peak Pulse Current of on 10/1000 µs waveform (Note 1)	I <sub>PPM</sub>	SEE TABLE 1	Amps
Steady State Power Dissipation at TL = 75°C Lead lengths .375", 9.5mm (Note 2)	P <sub>M(AV)</sub>	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method)(Note 3)	I <sub>FSM</sub>	200	Amps
Maximum instantaneous forward voltage at 100A for unidirectional only	V <sub>F</sub>	3.5	Volt
Operatings and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 +175	°C

**NOTES:**

1. Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °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.

Certified RoHS Compliant

UL File # E223026

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## **ICTE5.0 to ICTE15C MPTE-5 to MPTE-45 1N6373 to 1N6381 and 1N6382 to 1N6389**

**GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR  
STANDOFF VOLTAGE- 5.0 to 45.0V  
1500 Watt Peak Power**

Part Numbers			REVERSE STANDOFF VOLTAGE (VRWM) (V)	MINIMUM BREAKDOWN VOLTAGE VBR @ 1mA (Volts)	MAXIMUM REVERSE LEAKAGE IR @ Vr ( $\mu$ A)	MINIMUM CLAMPING VOLTAGE (Vc) @ Ipp=1A (Volts)	MAXIMUM CLAMPING VOLTAGE (Vc) @ Ipp=1A (Volts)	MAXIMUM PEAK PULSE CURRENT Ipp (A)
ICTE-5*	1N6373	MPTE-5*	5*	6.0	300.0	7.1	7.5	160.0
ICTE-8	1N6374	MPTE-8	8.0	9.4	25.0	11.3	11.5	100.0
ICTE-10	1N6375	MPTE-10	10.0	11.7	2.0	13.7	14.1	90.0
ICTE-12	1N6376	MPTE-12	12.0	14.1	2.0	16.1	16.5	70.0
ICTE-15	1N6377	MPTE-15	15.0	17.6	2.0	20.1	20.6	60.0
ICTE-18	1N6378	MPTE-18	18.0	21.2	2.0	24.2	25.2	50.0
ICTE-22	1N6379	MPTE-22	22.0	25.9	2.0	29.8	32.0	40.0
ICTE-36	1N6380	MPTE-36	36.0	42.4	2.0	50.6	54.3	23.0
ICTE-45	1N6381	MPTE-45	45.0	52.9	2.0	63.3	70.0	19.0

ICTE-8C	1N6382	MPTE-8C	8.0	9.4	50	11.4	11.6	100.0
ICTE-10C	1N6383	MPTE-10C	10.0	11.7	2.0	14.1	14.5	90.0
ICTE-12C	1N6384	MPTE-12C	12.0	14.1	2.0	16.7	17.1	70.0
ICTE-15C	1N6385	MPTE-15C	15.0	17.6	2.0	20.8	21.4	60.0
ICTE-18C	1N6386	MPTE-18C	18.0	21.2	2.0	24.8	25.5	50.0
ICTE-22C	1N6387	MPTE-22C	22.0	25.9	2.0	30.8	32.0	40.0
ICTE-36C	1N6388	MPTE-36C	36.0	42.4	2.0	50.6	54.3	23.0
ICTE-45C	1N6389	MPTE-45C	45.0	52.9	2.0	63.3	70.0	19.0

\*ICTE-5 is not available in Bi-directional. Suffix 'C' denotes Bi-directional device.

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