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1500 Watt MOSORB
 GENERAL DATA APPLICABLE TO ALL SERIES IN
 THIS GROUP

Zener Transient Voltage Suppressors
 Unidirectional and Bidirectional

Mosorb devices are designed to protect voltage sensitive components from high voltage, high energy transients. They have excellent clamping capability, high surge capability, low zener impedance and fast response time. These devices are Motorola's exclusive, cost-effective, highly reliable Surmetic axial leaded package and are ideally-suited for use in communication systems, numerical controls, process controls, medical equipment, business machines, power supplies and many other industrial/consumer applications, to protect CMOS, MOS and Bipolar integrated circuits.

Specification Features:

- Standard Voltage Range — 6.2 to 250 V
- Peak Power — 1500 Watts @ 1 ms
- Maximum Clamp Voltage @ Peak Pulse Current
- Low Leakage < 5 μ A Above 10 V
- UL Recognition
- Response Time is Typically < 1 ns

Mechanical Characteristics:

CASE: Void-free, transfer-molded, thermosetting plastic

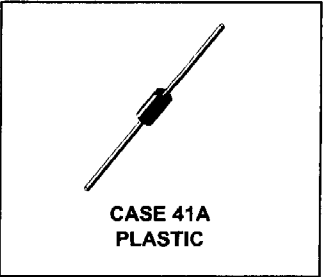
FINISH: All external surfaces are corrosion resistant and leads are readily solderable

POLARITY: Cathode indicated by polarity band. When operated in zener mode, will be positive with respect to anode

MOUNTING POSITION: Any

**1N6373A
 SERIES
 1500 WATT
 PEAK POWER**

**MOSORB
 ZENER OVERVOLTAGE
 TRANSIENT
 SUPPRESSORS
 6.2-250 VOLTS
 1500 WATT PEAK POWER
 5 WATTS STEADY STATE**



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Power Dissipation (1) @ $T_L \leq 25^\circ\text{C}$	P_{PK}	1500	Watts
Steady State Power Dissipation @ $T_L \leq 75^\circ\text{C}$, Lead Length = 3/8" Derated above $T_L = 75^\circ\text{C}$	P_D	5 50	Watts mW/ $^\circ\text{C}$
Forward Surge Current (2) @ $T_A = 25^\circ\text{C}$	I_{FSM}	200	Amps
Operating and Storage Temperature Range	T_J, T_{stg}	- 65 to +175	$^\circ\text{C}$

Lead temperature not less than 1/16" from the case for 10 seconds: 230 $^\circ\text{C}$

NOTES: 1. Nonrepetitive current pulse per Figure 5 and derated above $T_A = 25^\circ\text{C}$ per Figure 2.
 2. 1/2 sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

***ELECTRICAL CHARACTERISTICS** ($T_A = 25^\circ\text{C}$ unless otherwise noted) $V_F\# = 3.5\text{ V Max}$, $I_F^{**} = 100\text{ A}$ (C suffix denotes standard back to back bidirectional versions. Test both polarities)

JEDEC Device Note 1	Device Note 1	Breakdown†† Voltage		Maximum Reverse Stand-Off Voltage V_{RWM}^{***} (Volts)	Maximum Reverse Leakage @ V_{RWM} I_R (μA)	Maximum Reverse Surge Current $I_{RSM}\dagger$ (Amps)	Maximum Reverse Voltage @ $I_{RSM}\dagger$ (Clamping Voltage) V_{RSM} (Volts)	Clamping Voltage	
		V_{BR} Volts Min	@ I_T (mA)					Peak Pulse Current @ $I_{pp1}\dagger = 1\text{ A}$ V_{C1} (Volts max)	Peak Pulse Current @ $I_{pp1}\dagger = 10\text{ A}$ V_{C2} (Volts max)
1N6373	ICTE-5/MPTE-5	6	1	5	300	160	9.4	7.1	7.5
1N6374	ICTE-8/MPTE-8	9.4	1	8	25	100	15	11.3	11.5
1N6382	ICTE-8C/MPTE-8C	9.4	1	8	25	100	15	11.4	11.6
1N6375	ICTE-10/MPTE-10	11.7	1	10	2	90	16.7	13.7	14.1
1N6383	ICTE-10C/MPTE-10C	11.7	1	10	2	90	16.7	14.1	14.5
1N6376	ICTE-12/MPTE-12	14.1	1	12	2	70	21.2	16.1	16.5
1N6384	ICTE-12C/MPTE-12C	14.1	1	12	2	70	21.2	16.7	17.1
1N6377	ICTE-15/MPTE-15	17.6	1	15	2	60	25	20.1	20.6
1N6385	ICTE-15C/MPTE-15C	17.6	1	15	2	60	25	20.8	21.4
1N6378	ICTE-18/MPTE-18	21.2	1	18	2	50	30	24.2	25.2
1N6386	ICTE-18C/MPTE-18C	21.2	1	18	2	50	30	24.8	25.5
1N6379	ICTE-22/MPTE-22	25.9	1	22	2	40	37.5	29.8	32
1N6387	ICTE-22C/MPTE-22C	25.9	1	22	2	40	37.5	30.8	32
1N6380	ICTE-36/MPTE-36	42.4	1	36	2	23	65.2	50.6	54.3
1N6388	ICTE-36C/MPTE-36C	42.4	1	36	2	23	65.2	50.6	54.3
1N6381	ICTE-45/MPTE-45	52.9	1	45	2	19	78.9	63.3	70
1N6389	ICTE-45C/MPTE-45C	52.9	1	45	2	19	78.9	63.3	70

NOTE 1: C suffix denotes standard back-to-back bidirectional versions. Test both polarities. JEDEC device types 1N6382 thru 1N6389 are registered as back to back bidirectional versions and do not require a C suffix. 1N6373 thru 1N6381 are registered as unidirectional devices only (no bidirectional option).

* Indicates JEDEC registered data.

** 1/2 sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.

*** A transient suppressor is normally selected according to the maximum reverse stand-off voltage (V_{RWM}), which should be equal to or greater than the dc or continuous peak operating voltage level.

† Surge current waveform per Figure 5 and derate per Figure 2 of the General Data — 1500 W at the beginning of this group.

†† V_{BR} measured at pulse test current I_T at an ambient temperature of 25°C .

V_F applies to unidirectional devices only.