ICTE-5 thru ICTE-45C

TRANSIENT VOLTAGE SUPPRESSORS FOR MICROPROCESSOR PROTECTION

5.0 to 450 VOLTS

1500 WATT PEAK POWER 5.0 WATT STEADY STATE

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25 °C ambient unless otherwise specified

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation at T_A=25°C, T_p=1ms (Note 1)	P_{PK}	1.5	kWatts
Steady State Power Dissipation at T_L=75°C Lead Lengths .375", (9.5 mm) (Note 2)	P_D	5.0	Watts
Clamping Time 0 Volts to V_{BR}	$t_{clamping}$	< 1 x 10^{-12}	Sec
Forward Surge Rating 1/120 sec (Uni-Polar Only)	I_{FS}	200	Amps
Operating and Storage Temperature Range	T_J,T_{STG}	-65 to +175	°C

UNI-POLAR CHARACTERISTICS AT 25°C

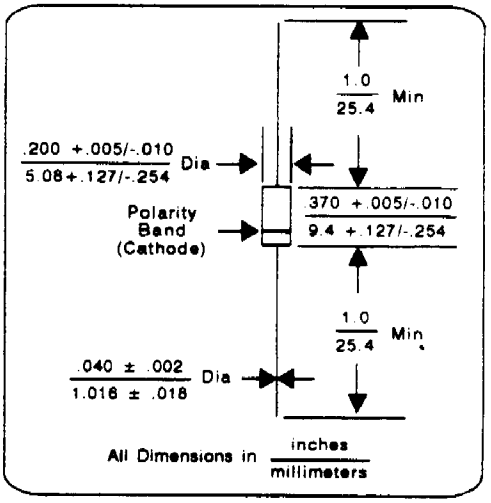
PART NUMBER	REVERSE STAND-OFF VOLTAGE (Note 3) V_R Volts	MAXIMUM REVERSE LEAKAGE @ V_R I_R uA	MINIMUM BREAKDOWN VOLTAGE @ 1.0 mA V_{BR} Volts	MAXIMUM CLAMPING VOLTAGE @ I_{PP}=1 A V_C Volts	MAXIMUM CLAMPING VOLTAGE @ I_{PP}=10 A V_C Volts	MAXIMUM PEAK PULSE CURRENT (Fig. 2) I_{PP} Amps
ICTE-5	5.0	300	6.0	7.1	7.5	160
ICTE-8	8.0	25	9.4	11.3	11.5	100
ICTE-10	10.0	2	11.7	13.7	14.1	90
ICTE-12	12.0	2	14.1	16.1	16.5	70
ICTE-15	15.0	2	17.6	20.1	20.6	60
ICTE-18	18.0	2	21.2	24.2	25.2	50
ICTE-22	22.0	2	25.9	29.8	32.0	40
ICTE-36	36.0	2	42.4	50.6	54.3	23
ICTE-45	45.0	2	52.9	63.3	70.0	19

BI-POLAR CHARACTERISTICS AT 25°C

ICTE-8C	8.0	25	9.4	11.4	11.6	100
ICTE-10C	10.0	2	11.7	14.1	14.5	90
ICTE-12C	12.0	2	14.1	16.7	17.1	70
ICTE-15C	15.0	2	17.6	20.8	21.4	60
ICTE-18C	18.0	2	21.2	24.8	25.5	50
ICTE-22C	22.0	2	25.9	30.8	32.0	40
ICTE-36C	36.0	2	42.4	50.6	54.3	23
ICTE-45C	45.0	2	52.9	63.3	70.0	19

Clamping Factor: 1.33 @ Full rated power, 1.20 @ 50% rated power

Clamping Factor is the ratio of V_C to V_{BR}



MECHANICAL DATA

Case: Molded plastic over passivated junctions

Terminals: Axial leads.

Polarity: Band Denotes Cathode (Except Bi-Polar)

Mounting Position: Any

Weight: 0.053 ounce (1.5 grams)

FEATURES

- Transient Protection for CMOS, MOS, ICs, (TTL, ECL, DTL, RTL, and Linear Functions)
- Voltage range of 4.5 to 45 volts
- Low clamping ratio

NOTES TO CHARACTERISTICS

1. Non-repetitive current pulse, per Fig.3 and derated above T_A = 25 °C per Fig. 2
2. Mounted on Copper Leaf area of 0.79 sq in (20 sq mm)
3. V_{BR} measured after I_T applied for 300 us. I_T = Square Wave Pulse or equivalent.
4. ICTE-5 not available as Bipolar

Figure 2: CLAMPING VOLTAGE vs PEAK PULSE CURRENT

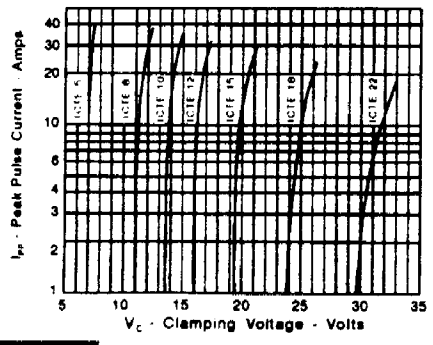


FIGURE 3 - PULSE WAVEFORM

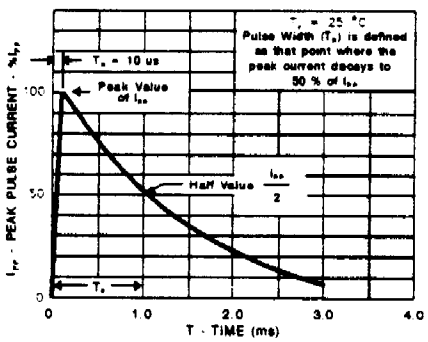
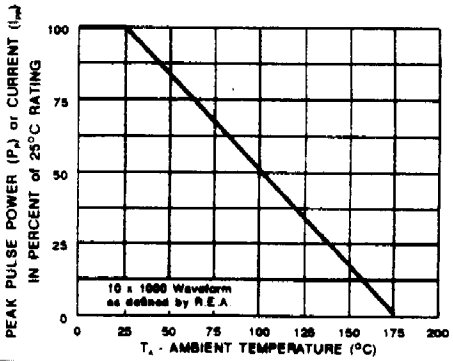


FIGURE 4 - PULSE DERATING CURVE



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