

DIGITRON SEMICONDUCTORS

ICTE-5 THRU ICTE-45C

TRANSIENT VOLTAGE SUPPRESSORS
FOR MICROPROCESSOR PROTECTION

MAXIMUM RATINGS @ 25°C AMBIENT UNLESS OTHERWISE SPECIFIED

5.0 to 450 Volts			
1500 Watt Peak Power			
5.0 Watt Steady State			
Rating	Symbol	Value	Units
Peak Power Dissipation @ $T_A = 25^\circ\text{C}$, $T_p = 1\text{ms}$ (Note 1)	P_{PK}	1.5	kWatts
Steady State Power Dissipation @ $T_L = 75^\circ\text{C}$ Lead Lengths .375", (9.5 mm) (Note 2)	P_D	5.0	Watts
Clamping Time 0 Volts to V_{BR}	$t_{clamping}$	$< 1 \times 10^{-12}$	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 @ 25°C

Part Number	Reverse Stand-off Voltage (Note 3) V_R Volts	Maximum Reverse Leakage @ V_R I_R μA	Minimum Breakdown Voltage @ 1.0 mA V_{BR} Volts	Maximum Clamping Voltage @ $I_{PP} = 1\text{ A}$ V_C Volts	Maximum Clamping Voltage @ $I_{PP} = 10\text{ A}$ 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 @ 25°C

Part Number	Reverse Stand-off Voltage (Note 3) V_R Volts	Maximum Reverse Leakage @ V_R I_R μA	Minimum Breakdown Voltage @ 1.0 mA V_{BR} Volts	Maximum Clamping Voltage @ $I_{PP} = 1\text{ A}$ V_C Volts	Maximum Clamping Voltage @ $I_{PP} = 10\text{ A}$ V_C Volts	Maximum Peak Pulse Current (Fig. 2) I_{PP} Amps
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}

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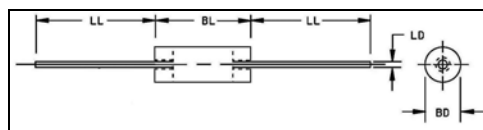
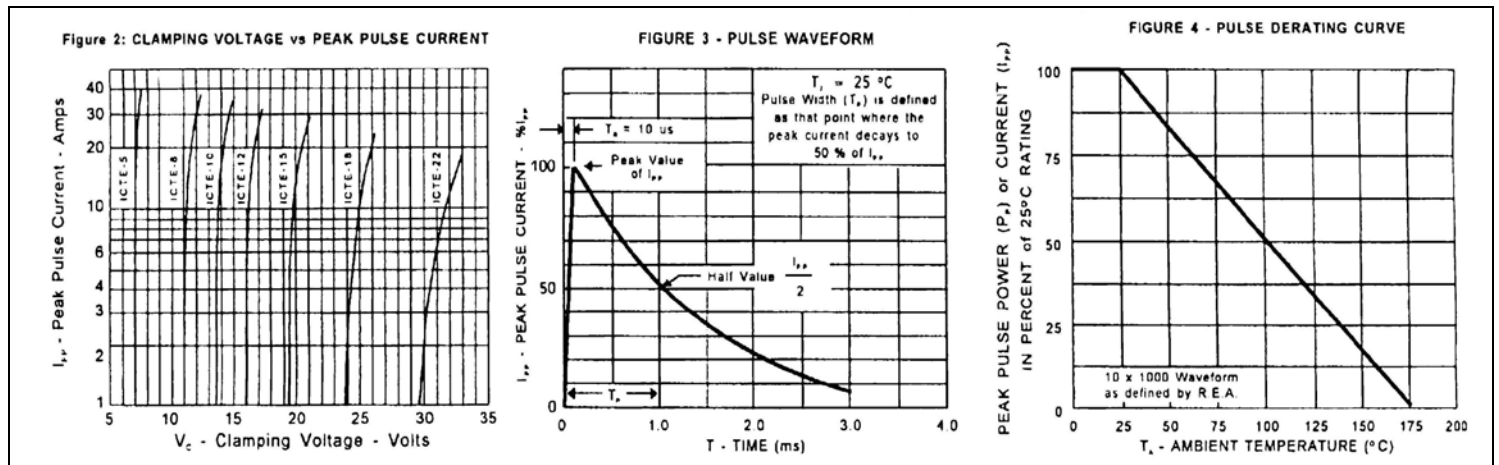
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Notes to Characteristics

1. Non-repetitive current pulse, per Fig. 3, and derated above $T_A = 25^\circ\text{C}$ 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 μs (I_T = Square Wave Pulse or equivalent)
4. ICTE-5 is not available as bipolar

MECHANICAL CHARACTERISTICS

Case:	Molded plastic over passivated junctions
Polarity:	Cathode band (except bi-polar)
Weight:	0.053 ounce (1.5 grams)



	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.190	0.210	4.800	5.300
BL	0.265	0.375	7.200	9.500
LD	0.038	0.042	0.960	1.070
LL	1.000	-	25.400	-

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).
 Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.