

## EDCP24CD1A

### Features

- Glass passivated chip
- 200 W peak pulse power capability with a 10/1000  $\mu$ s waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni unit
- Excellent clamping capability
- At a height of 1.5 meters, start a free fall motion and fall to the concrete floor for 5 times without any obvious damage
- Keep at temperature of -40 °C for 3 hours and 80 °C for 3 hours, temperature conversion time 20 s ~ 30 s, with 3 times circulation, no electrical abnormality
- Complies with following standards:  
IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30$ kV  
Contact discharge:  $\pm 30$ kV
- Very fast response time

- RoHS compliant

### Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

### Applications

- Industrial digital electronic detonator



### Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 $\mu$ s waveform <sup>(1)</sup>	P <sub>PP</sub>	200	Watts
Peak pulse current with a 10/1000 $\mu$ s waveform <sup>(1)</sup>	I <sub>pp</sub>	See Next Table	A
Power dissipation on infinite heatsink at TL = 75 °C	P <sub>D</sub>	0.4	W
Peak forward surge current, 8.3ms single half sinewave unidirectional only <sup>(2)</sup>	I <sub>FSM</sub>	20	A
Maximum instantaneous forward voltage at 25 A for unidirectional only <sup>(3)</sup>	V <sub>F</sub>	3.5	V
Operating junction and storage temperature range	T <sub>J</sub> T <sub>STG</sub>	-55 to +150	°C

Note:

(1) Non-repetitive current pulse per Fig.5 and derated above TA= 25 °C per Fig.1

(2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

### Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number (Bi)	Reverse Stand off Voltage V <sub>R</sub> (Volts)	Breakdown Voltage V <sub>BR</sub> (Volts)@I <sub>T</sub>		Test Current I <sub>T</sub> (mA)	Maximum Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> ( $\mu$ A)	Maximum Peak Pulse Current I <sub>pp</sub> (A)	Maximum Clamping Voltage V <sub>C</sub> @ I <sub>pp</sub> (V)
		Min .V	Max .V				
EDCP24CD1A	24.0	26.70	29.50	1	1	5.14	38.9

Rating & Characteristic Curves

Figure 1- Pulse Derating Curve

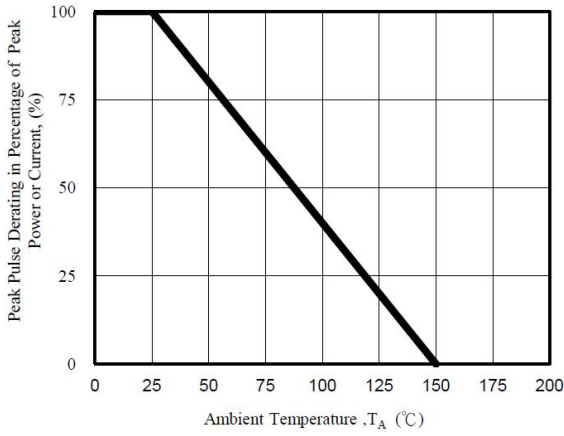


Figure 2- Maximum Non-Repetitive Surge Current

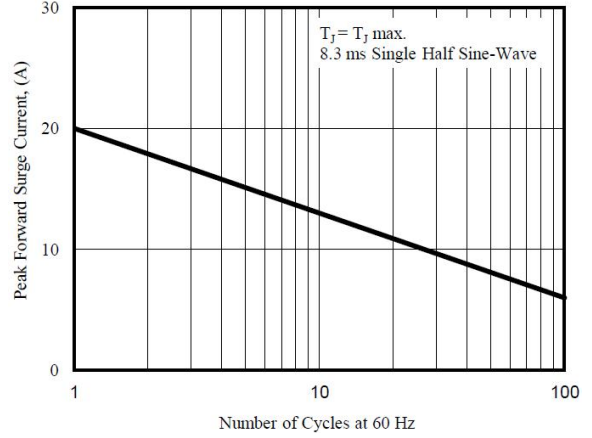


Figure 3- Steady State Power Derating Curve

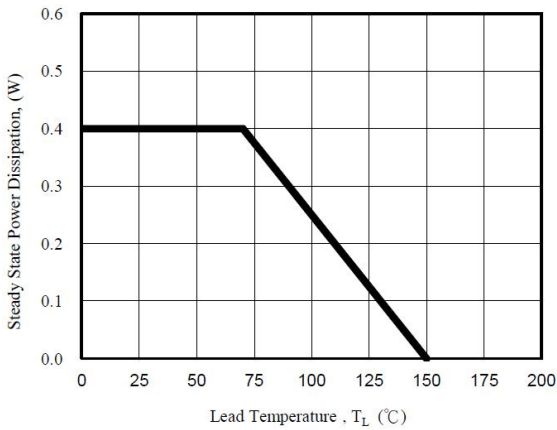


Figure 4- Peak Pulse Power Rating Curve

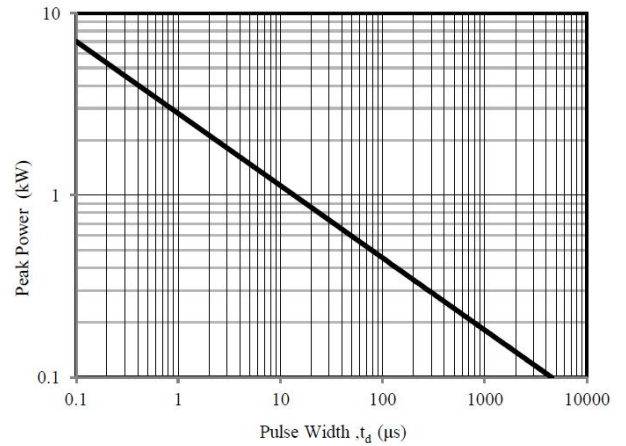


Figure 5- Pulse Waveform

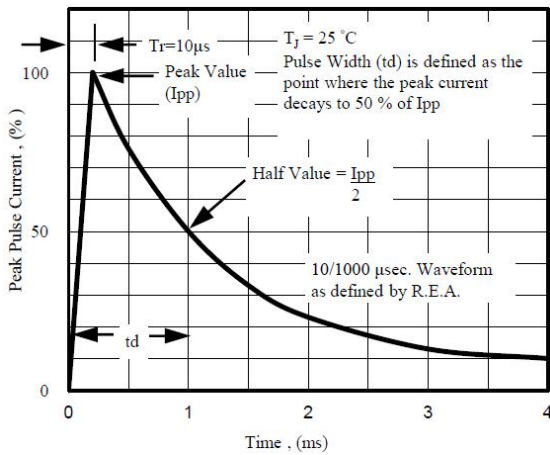
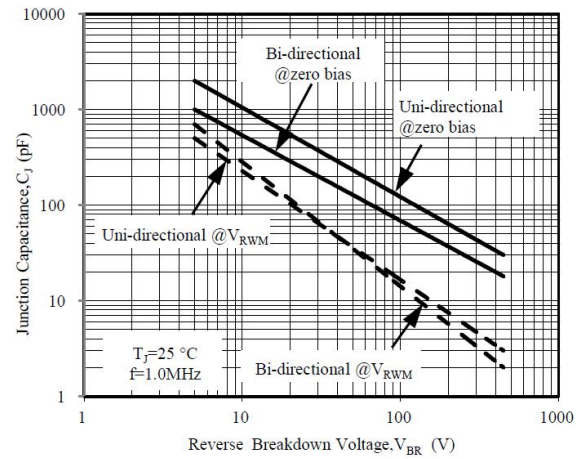
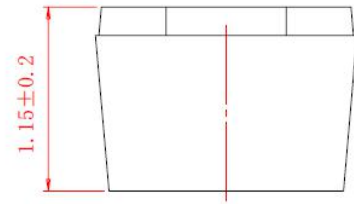
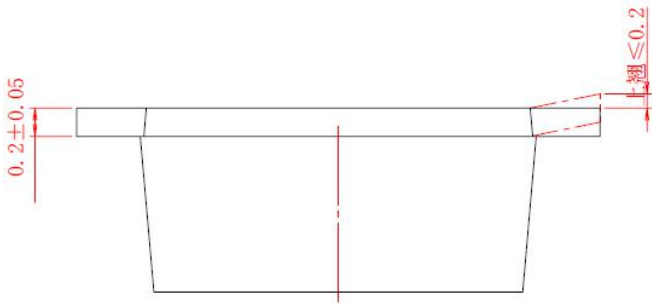


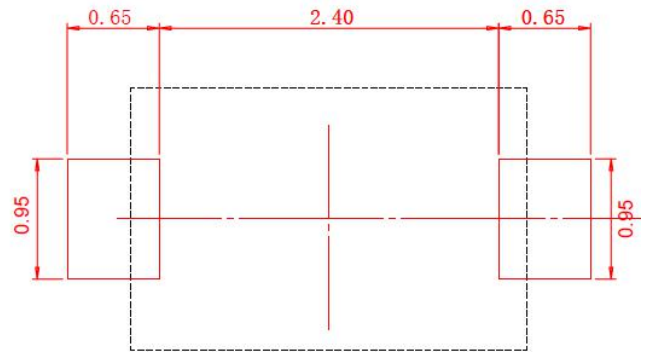
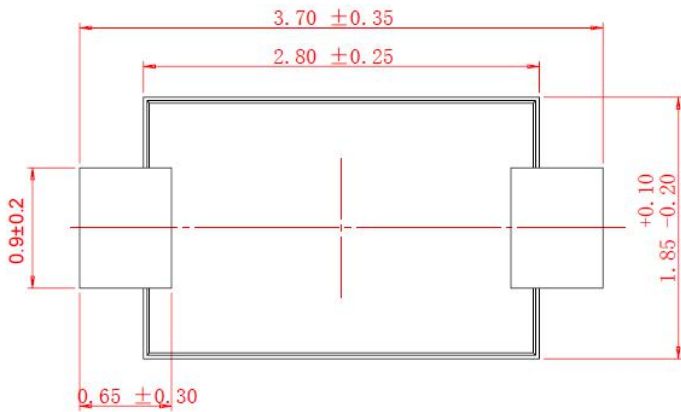
Figure 6- Typical Junction Capacitance



**PACKAGE OUTLINE DIMENSIONS in millimeters(SOD-123FL)**



**Mounting Pad Layout**



**Disclaimer**

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

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