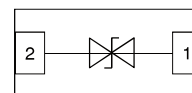


## ESD Protection Diode in SOD-882

### Features:

- 60Watts peak pulse power ( $t_p = 8/20\mu s$ )
- 0402 package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Medium capacitance ( $C_J = 15pF$  typ.)
- Protection one data/power line to:
  - IEC 61000-4-2  $\pm 25kV$  contact  $\pm 20kV$  air
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lightning) 5A (8/20 $\mu s$ )



### Mechanical Data:

- **Case:** 0402 (plastic package).  
Lead free; RoHS compliant
- **Molding Compound Flammability Rating:**  
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:  
260 °C/10 sec. at terminals

### Applications:

- Audio Line, Speaker, Headset, Microphone Protection
- Human Interface Devices (Keyboard, Touchpad, Buttons)

### Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

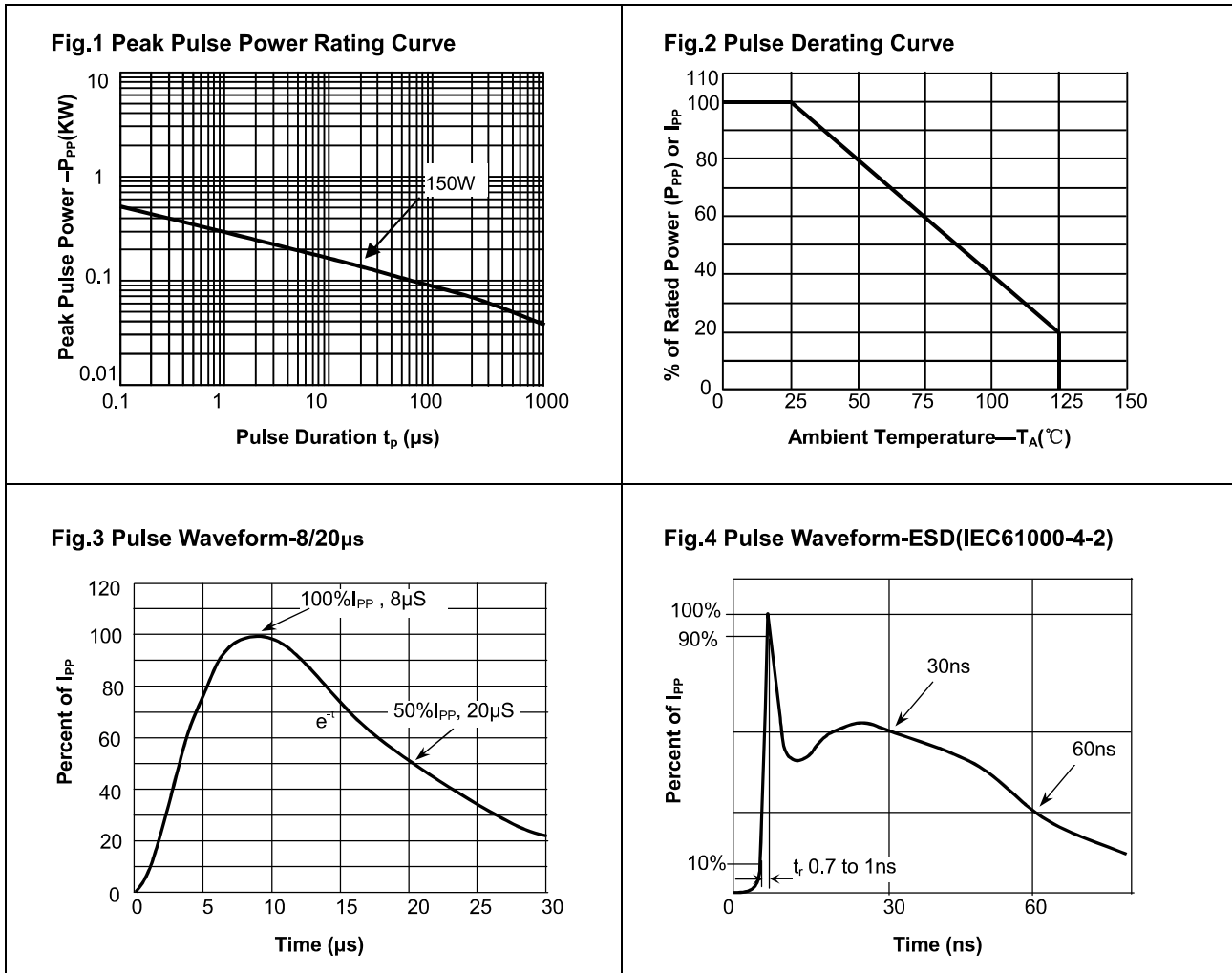
Parameter	Symbol	Value	Unit
Peak Pulse Power ( $T_P = 8/20\mu s$ )	$P_{PP}$	60	W
ESD contact/air discharge (IEC-61000-4-2)	$V_{ESD}$	25/20	kV
Peak Pulse Current ( $t_P = 8/20\mu s$ )	$I_{PP}$	5.0	A
Junction Temperature	$T_J$	-55 to +125	°C
Storage temperature	$T_{STG}$	-55 to +150	°C

### Electrical Characteristics

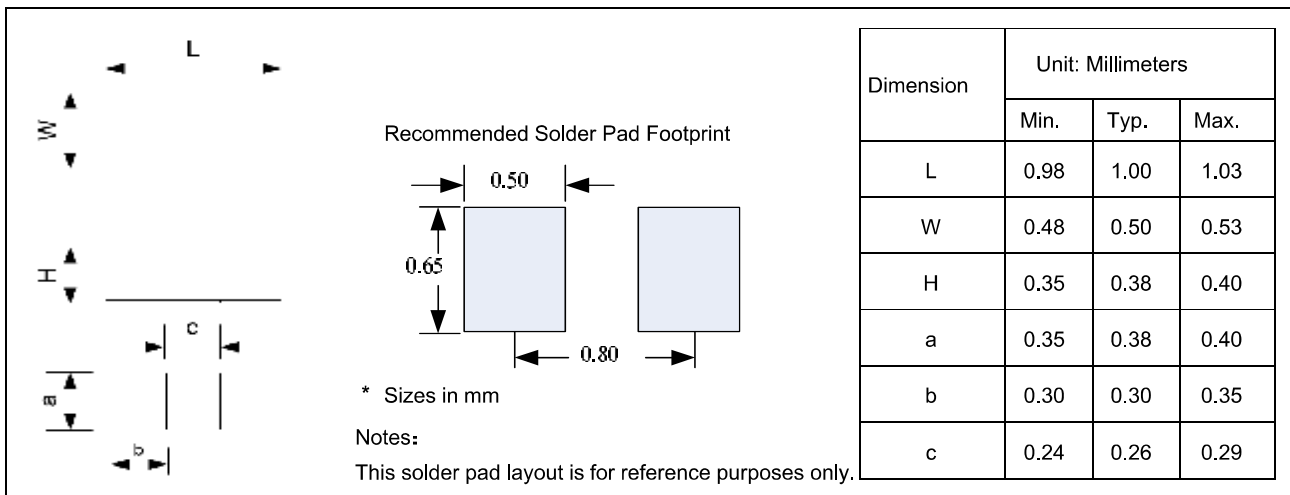
( $T_A = 25$  °C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	5.6	6.5	8.4	V
Reverse Leakage Current	$I_R$	$V_R = 5V$			100	nA
Clamping Voltage (IEC 61000-4-5)	$V_C$	$I_{PP} = 1A$			10	V
		$I_{PP} = 5A$			12	V
Clamping Voltage (IEC 61000-4-2)	$V_C$	$V_{ESD} = 8kV$		15		V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$		15		pF

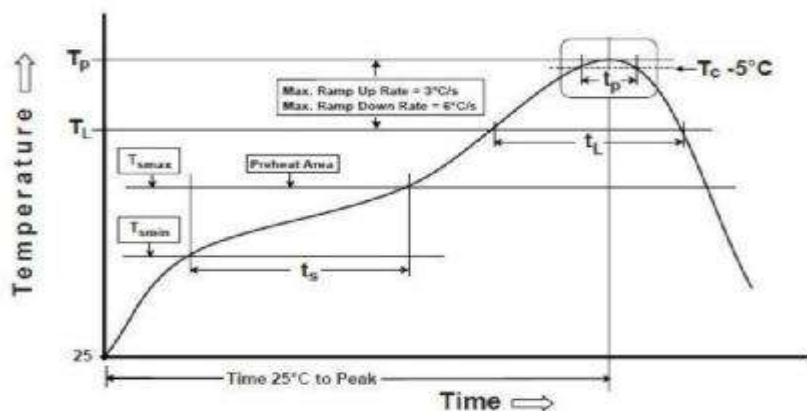
**Typical Characteristics** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)



**Package Dimensions**

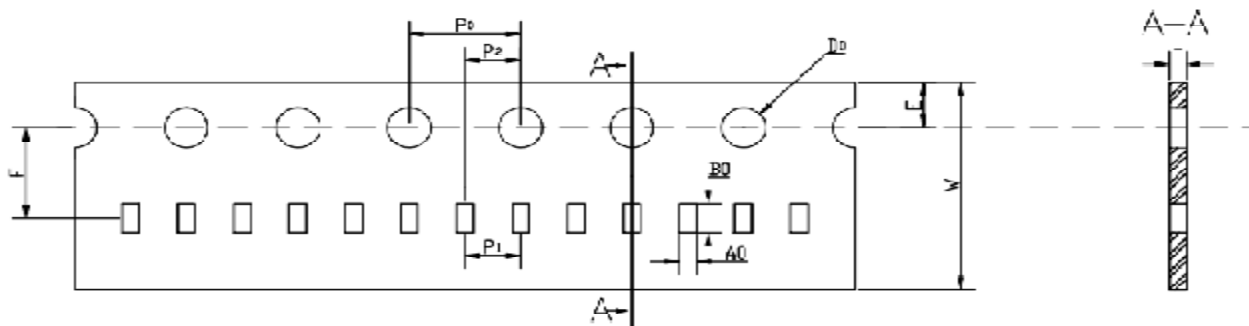


### Soldering Parameters



Profile Feature	Pb-Free Assembly
Pre Heat Temperature Min ( $T_{smin}$ ) Temperature Max ( $T_{smax}$ ) Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	150 °C 200 °C 60-120 seconds
Ramp-up Rate ( $T_l$ to $T_p$ )	3 °C/second max.
Liquidus temperature ( $T_l$ ) Time ( $t_l$ ) maintained above $T_l$	217 °C 60-150 seconds
Peak package body temperature ( $T_p$ )	260 <sup>+0/-5</sup> °C
Time( $t_p$ )* within 5°C of the specified classification temperature ( $T_c$ )	30* seconds
Ramp-down Rate ( $T_p$ to $T_l$ )	6 °C/second max.
Time 25 °C to peak temperature	8 minutes max.
* Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.	

### Taping Specification



Tape Dimension	A <sub>0</sub>	B <sub>0</sub>	W	F	E	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub>	T
	0.68±0.03	1.17±0.03	8.00±0.10	3.50±0.05	1.75±0.10	2.00±0.05	2.00±0.05	4.00±0.10	1.55±0.05	0.43±0.03

### Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
KCESD0402NC5VB	0402	Tape and reel	10000pcs / reel	EIA STD RS-481

### Revision history

Date	Revision	Changes
23-May-2016	1.0	Initial release