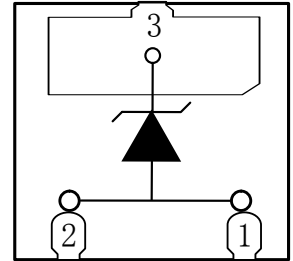


## EOS/ESD Protection Diode in DFN-2020-3L

### Features

- 5000 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- DFN-2020-3L package
- Unidirectional configurations
- Low clamping voltage
- Low leakage current
- Medium capacitance ( $C_j=950pF$  typ.)
- Protection one data/power line to:
  - IEC 61000-4-2  $\pm 30kV$  contact  $\pm 30kV$  air
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lightning) 180A (8/20 $\mu s$ )



### Mechanical Data

- **Case:** DFN-2020-3L (plastic package).  
Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:**  
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:  
260 °C/10 sec. at terminals

### Applications

- Power lines
- USB Vbus Industrial Electronics
- Industrial Electronics
- Microcontroller Input Protection
- Computer & Consumer Electronics
- Automotive and Telecommunication

### Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

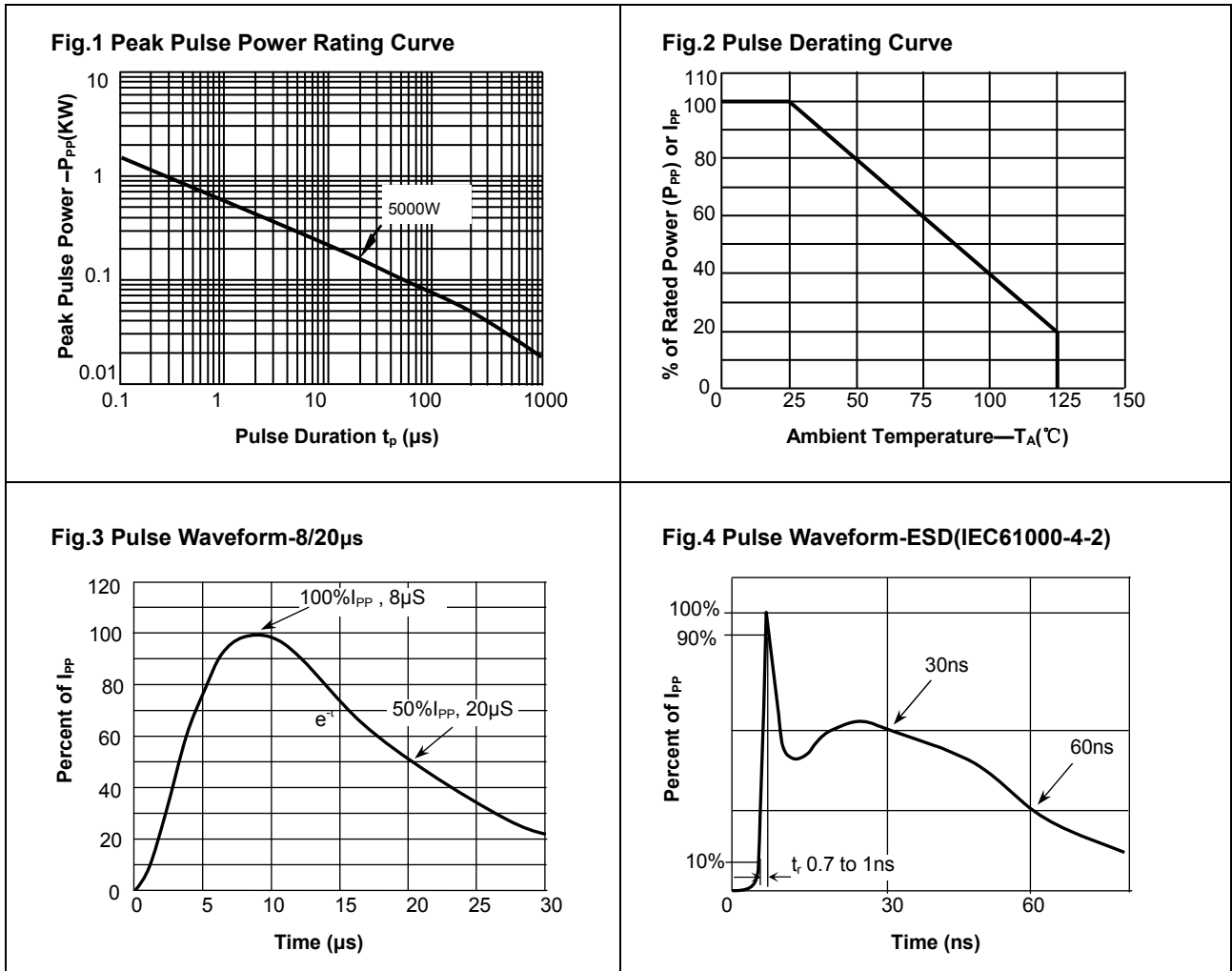
Parameter	Symbol	Value	Unit
Peak Pulse Power ( $T_p=8/20\mu s$ )	$P_{PP}$	5000	W
ESD contact/air discharge (IEC-61000-4-2)	$V_{ESD}$	30/30	kV
Peak Pulse Current ( $t_p = 8/20\mu s$ )	$I_{PP}$	180	A
Junction Temperature	$T_J$	-55 to +125	°C
Storage temperature	$T_{STG}$	-55 to +150	°C

### Electrical Characteristics

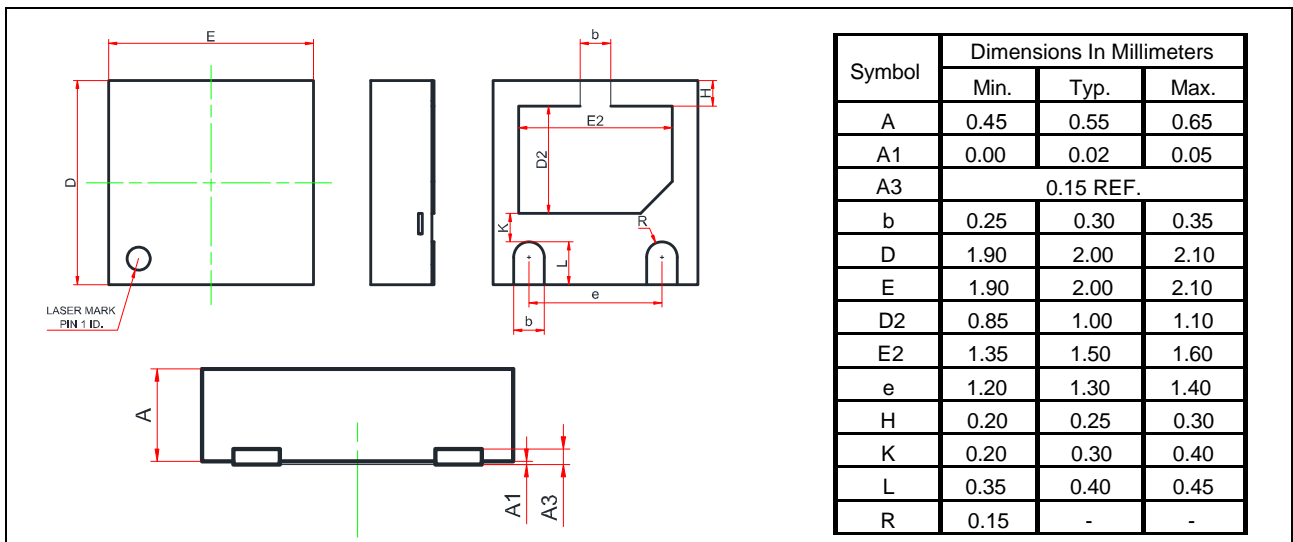
( $T_A = 25$  °C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	$V_{RWM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	13.5	14.5		V
Reverse Leakage Current	$I_R$	$V_R=12V$			1	$\mu A$
Clamping Voltage (IEC 61000-4-5)	$V_C$	$I_{PP} = 50A$			20	V
Clamping Voltage (IEC 61000-4-5)	$V_C$	$I_{PP} = 100A$			23	V
Clamping Voltage (IEC 61000-4-5)	$V_C$	$I_{PP} = 150A$			29	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$		950		pF

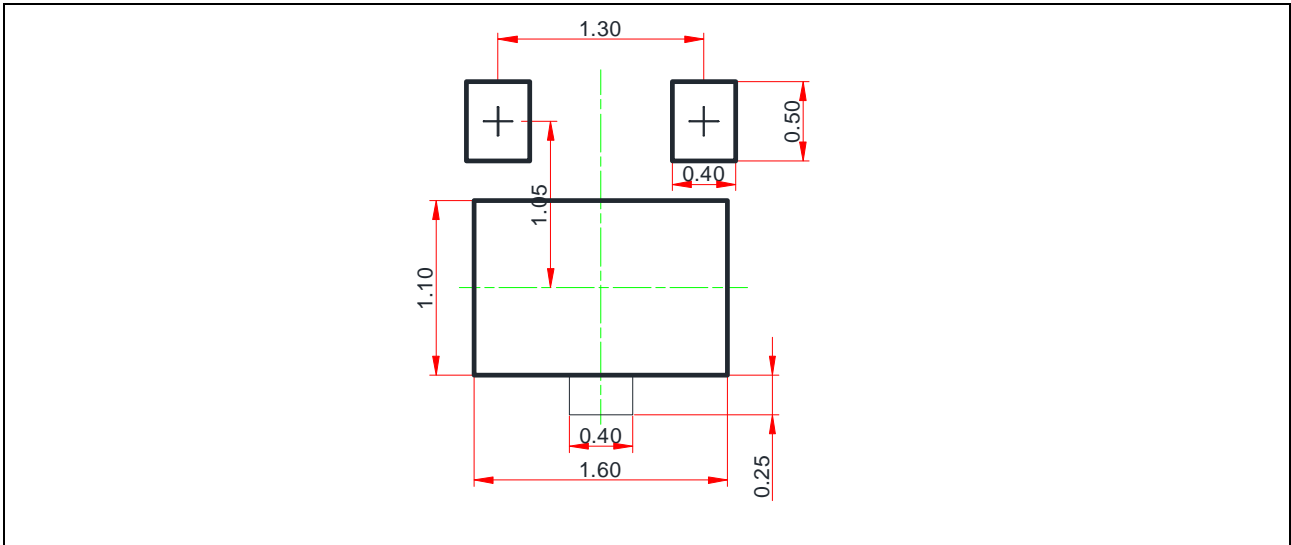
## Typical Characteristics ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)



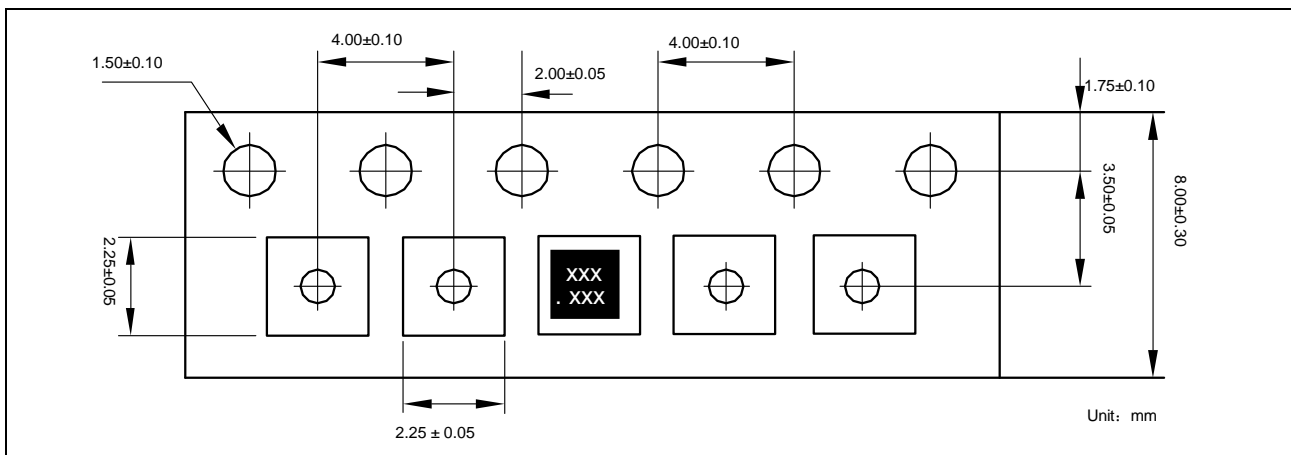
## Package Dimensions



## PAD Dimensions



## Package information



## Ordering information

Order code	Marking	Package	Packaging option	Base quantity	Packaging specification
CESD2020HC12VU	T12	DFN2020-3L	Tape and reel	3000pcs / reel	EIA STD RS-481

## Revision history

Date	Revision	Changes
23-May-2016	1.0	Initial release
9-Jun.-2018	2.0	Update

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