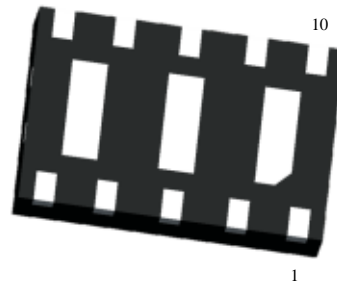


## Low Capacitance ESD TVS Array in DFN3020

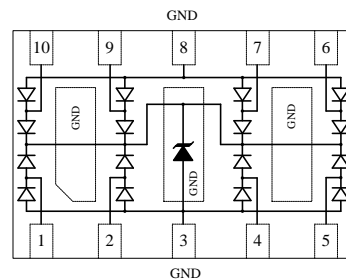
### Features

- 1000Watts peak pulse power ( $t_p = 8/20\mu s$ )
- DFN3020 package
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (1.7pF typical I/O to I/O)
- ESD Protection for high-speed data lines to:
  - IEC 61000-4-2  $\pm 30KV$  contact  $\pm 30KV$  air
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lightning) 40A (8/20 $\mu s$ )



### Mechanical Data

- **Case:** DFN3020 (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

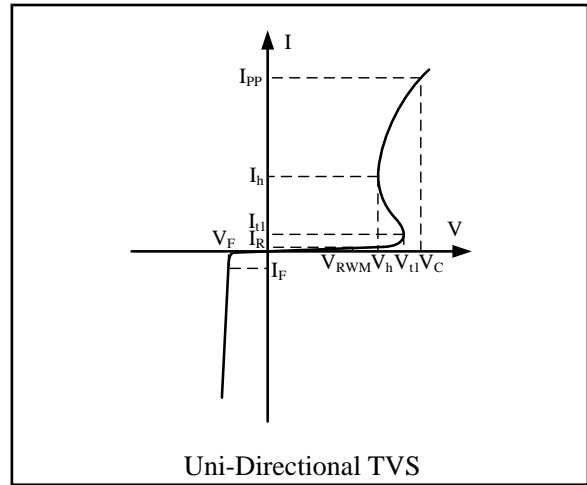
- 10/100/1000M Ethernet Ports
- WAN/LAN Equipment
- Desktops, Servers and Notebooks
- Cellular Phones
- Switching Systems
- Audio/Video Inputs

### Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $T_P=8/20\mu S$ )	$P_{PP}$	1000	W
ESD contact/air discharge (IEC-61000-4-2)	$V_{ESD}$	30/30	kV
Peak Pulse Current ( $t_p = 8/20\mu S$ )	$I_{PP}$	40	A
Junction Temperature	$T_J$	-55 to +125	°C
Storage temperature	$T_{STG}$	-55 to +150	°C

Symbol	Parameter
$V_{RWM}$	Nominal Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{t1}$	Trigger Voltage
$I_{t1}$	Trigger Current @ $V_{t1}$
$V_h$	Holding Voltage
$I_h$	Holding Current @ $V_h$
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Maximum Peak Pulse Current
$C_{ESD}$	Parasitic Capacitance

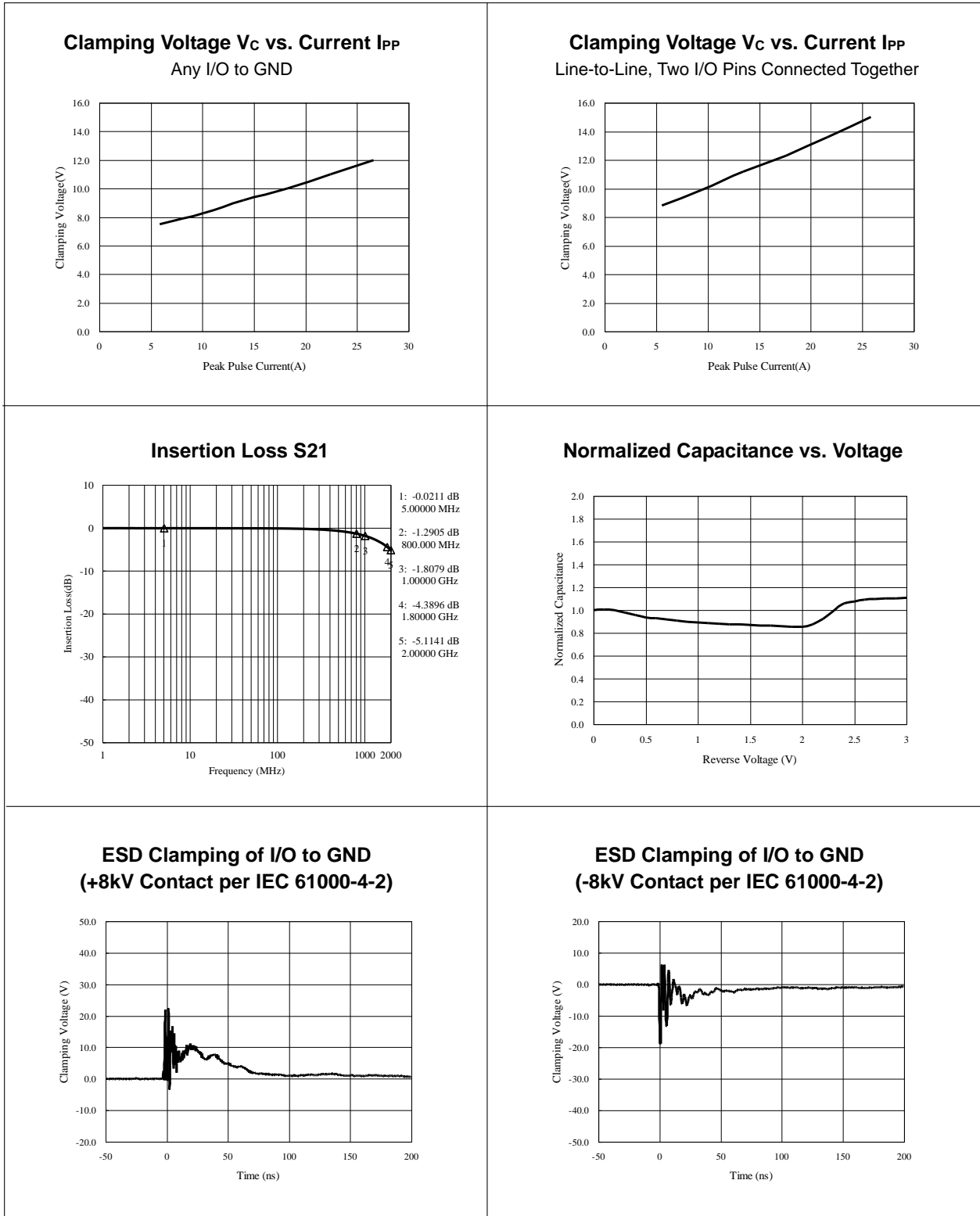


## Electrical Characteristics

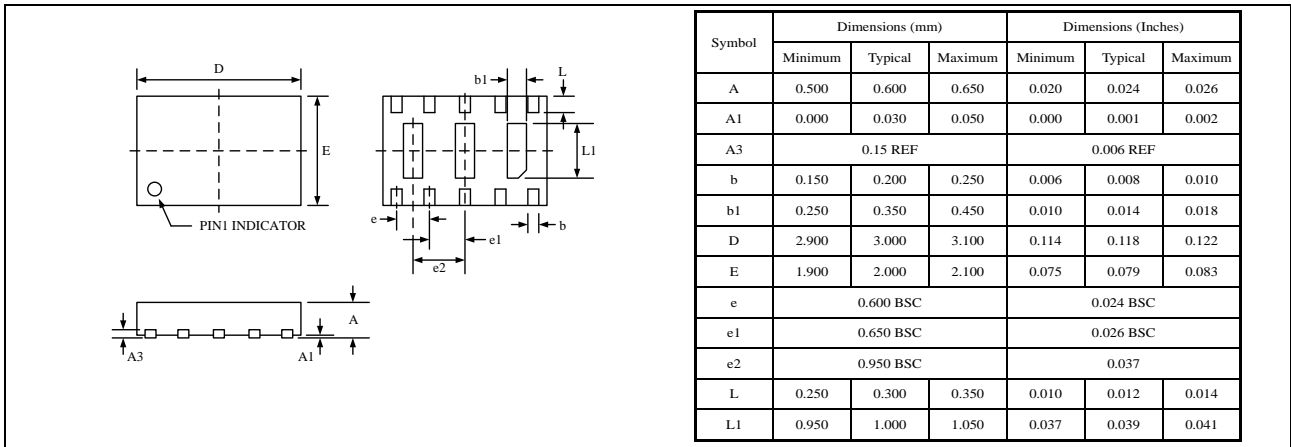
( $T_A = 25^\circ\text{C}$  unless otherwise specified)

Symbol	Test Condition	Minimum	Typical	Maximum	Units
$V_{RWM}$				3.3	V
$I_R$	$V_{RWM} = 3.3\text{V}, T = 25^\circ\text{C}$		0.1	1.0	$\mu\text{A}$
$V_{t1}$	$I_{t1} = 1\mu\text{A}$	3.8	4.5	5.5	V
$V_h$	$I_h = 1\text{mA}$	3.5		5.5	V
$V_C$	Any I/O to Ground $I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$			5.5	V
$V_C$	Any I/O to Ground $I_{PP} = 10\text{A}, t_p = 8/20\mu\text{s}$			10.5	V
$V_C$	Any I/O to Ground $I_{PP} = 25\text{A}, t_p = 8/20\mu\text{s}$			18.0	V
$V_C$	Line-to-Line / Line-to-GND, two I/O Pins connected together on each line $I_{PP} = 40\text{A}, t_p = 8/20\mu\text{s}$			25.0	V
$C_{ESD}$	Between I/O Pins and Ground $V_R = 0\text{V}, f = 1\text{MHz}$		3.8	5.0	pF
$C_{ESD}$	Between I/O Pins $V_R = 0\text{V}, f = 1\text{MHz}$		1.7	2.5	pF

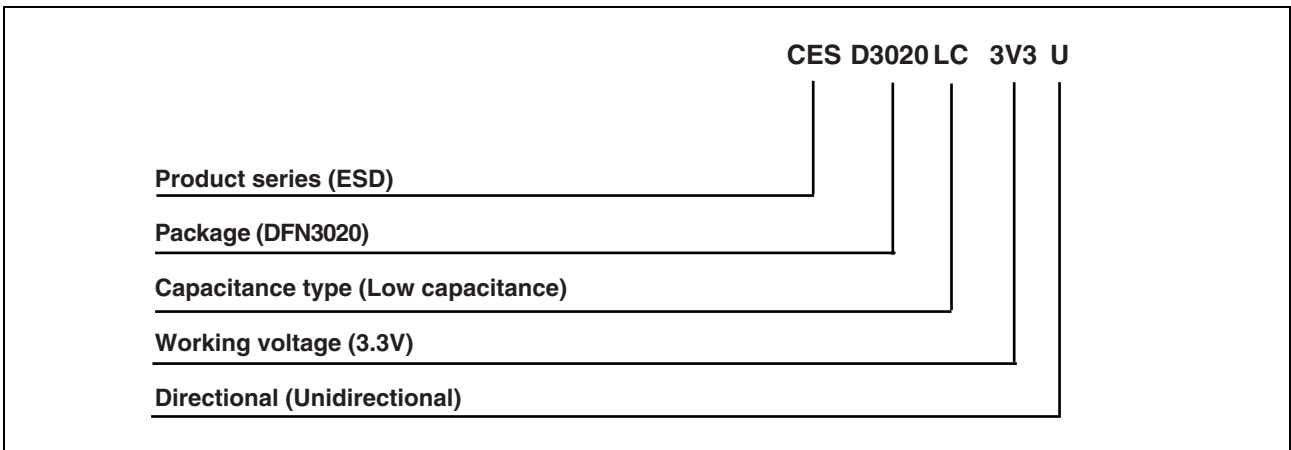
**Typical Characteristics** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)



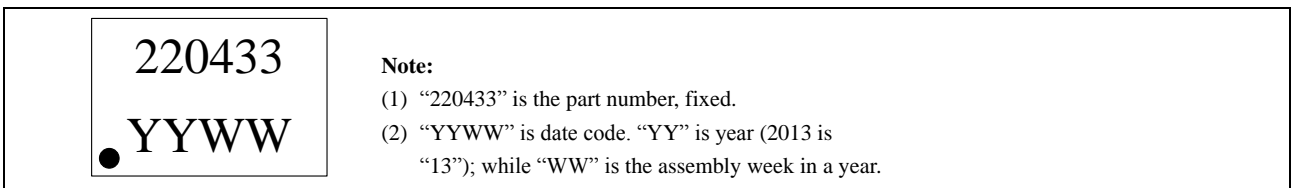
## Package Dimensions



## Part number system



## Marking



## Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
CESD3020LC3V3U	DFN3020	Tape and reel	3000pcs / reel	EIA STD RS-481

## Revision history

Date	Revision	Changes
23-May-2012	1.0	Initial release

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