# ESD Supressor
# 7V Unidirectional DFN2020

## ME71U15D2020

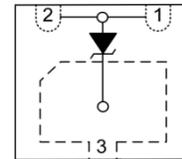**MERITEK**

## FEATURE

- **IEC 61000-4-2 ESD: ±30KV (Air) ±30KV (Contact)**
- **ESD Protection for one Unidirectional Channel**
- **High Surge Capability**
- **Low Leakage Current**
- **Low Clamping Voltage**
- **Solid-State Silicon-Avalanche Technology**
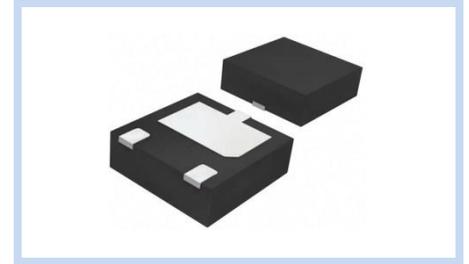
## APPLICATION

- **Power Port Protection**
- **I$^2$C Bus Protection**
- **Computer Interfaces Protection**
- **Microprocessors Protection**
- **Peripherals**

**RoHS**

## MAXIMUM RATINGS AND CHARACTERISTICS

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| ESD Voltage (Contact discharge) | $V_{ESD}$ | ±30 | KV |
| ESD Voltage (Air discharge) | | ±30 | |
| Peak Pulse Power (tp=10/1000µs) | $P_{PP}$ | 400 | W |
| Peak Pulse Power (tp=8/20µs) | $P_{PP}$ | 4000 | W |
| Operating & Storage Temperature Range | $T_J$, $T_{STG}$ | -55~+150 | °C |

## ELECTRICAL CHARACTERISTICS

| Parameter | Condition | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Reverse Stand-Off Voltage | -- | $V_{RWM}$ | -- | -- | 7 | V |
| Reverse Breakdown Voltage | $I_{BR}$=1mA | $V_{BR}$ | 7.3 | -- | -- | V |
| Reverse Leakage Current | $V_R$=7V | $I_R$ | -- | -- | 1 | µA |
| Clamping Voltage | $I_{PP}$=1A, tp=8/20µs | $V_C$ | -- | -- | 15 | V |
| | $I_{PP}$=180A, tp=8/20µs | | -- | -- | 35 | |
| Off State Junction Capacitance | Vdc=0, f=1MHz Between I/O pins and GND | $C_J$ | -- | 2500 | 2800 | pF |

Notes:

1. $T_J$= 25ºC unless otherwise specified

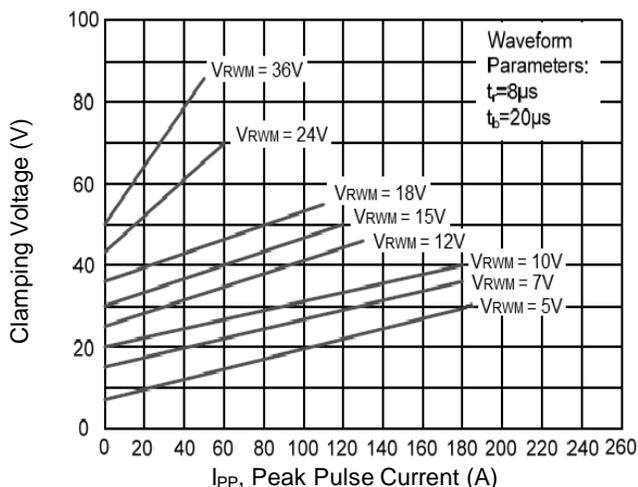## CHARACTERISTIC CURVES
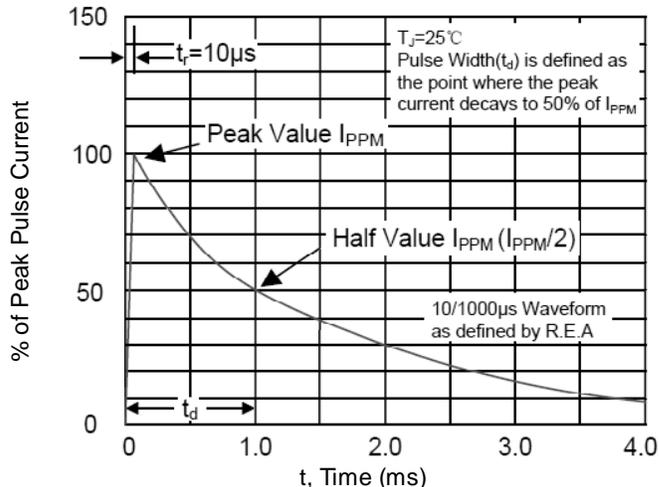
### Power Derating Curve
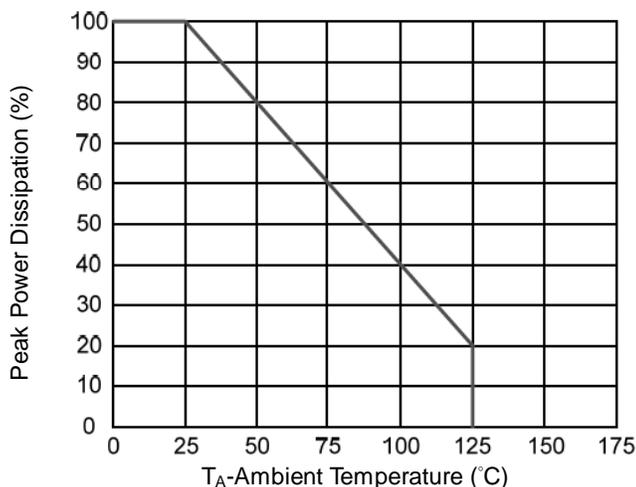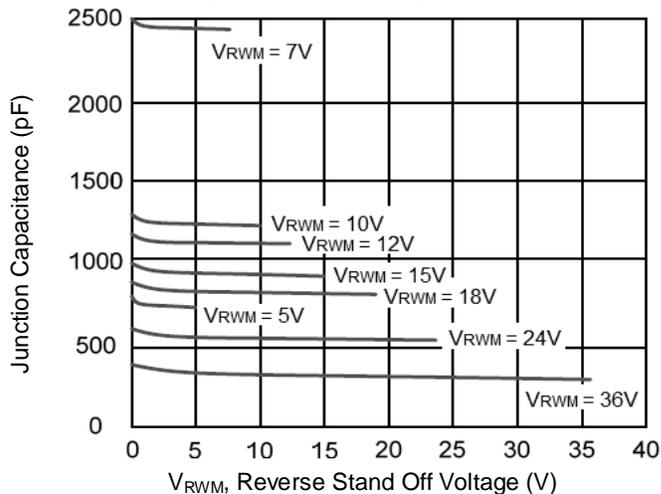


### 8/20μs Pulse Waveforms
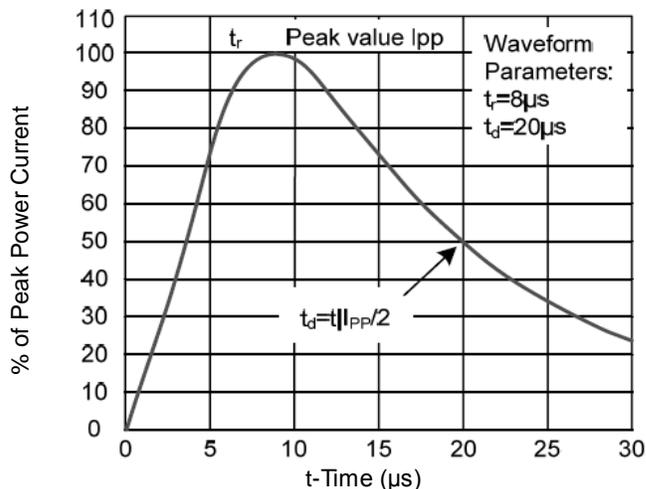


### Clamping Voltage vs. Peak Pulse Current



### 10/1000μs Pulse Waveform
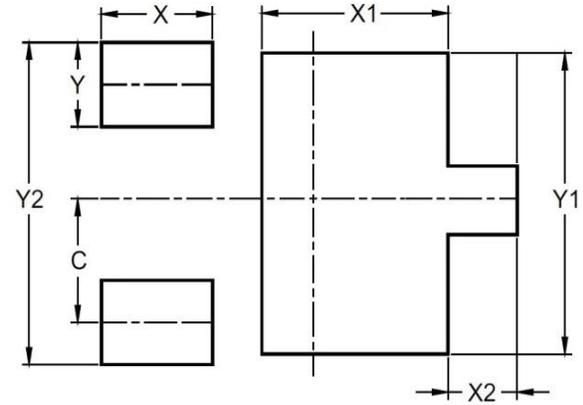


### Typical Junction Capacitance

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## DIMENSIONS AND RECOMMENDED LAND PATTERN

| Item | Min (mm) | Max (mm) |
|------|----------|----------|
| A | 0.50 | 0.60 |
| b | 0.30 | 0.30 |
| D | 1.90 | 2.10 |
| D2 | 0.90 | 1.15 |
| E | 1.90 | 2.10 |
| E2 | 1.40 | 1.60 |
| e | 0.65 | 0.65 |
| k | 0.20 | 0.45 |
| L | 0.32 | 0.47 |
| L1 | 0.20 | 0.30 |
| z | 0.50 | 0.50 |
| C | 0.60 | 0.60 |
| X | 0.50 | 0.50 |
| X1 | 1.10 | 1.10 |
| X2 | 0.25 | 0.25 |
| Y | 0.40 | 0.40 |
| Y1 | 1.60 | 1.60 |
| Y2 | 1.60 | 1.60 |
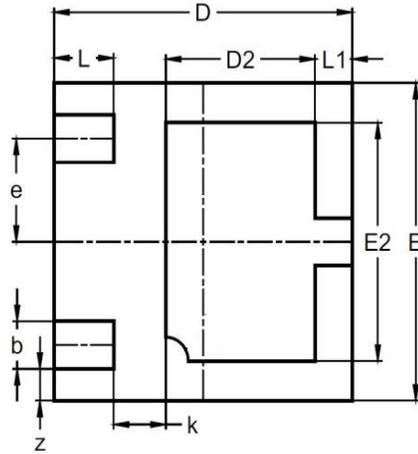
*Specifications subject to change without notice.

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