Micro Commercial Components
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# ESD12VK4

## 12 Volts ESD Protection Device

## SOT23-6L

## Features

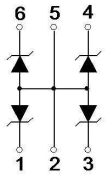
- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Uni-directional ESD protection of one line
- Low reverse clamping voltage
- Low leakage current
- Fast response time

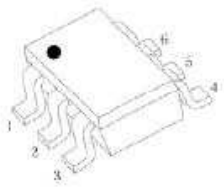
## Maximum Ratings

- Operating Junction &StorageTemperature: -55°C to +150°C

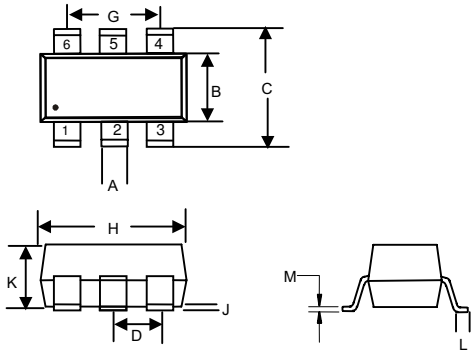
| Parameter | | Symbol | Limits | unit |
|---|---|---|---|---|
| IEC61000-4-2(ESD) | Air<br>Contact | | ±25<br>±25 | KV |
| Peak Pulse Power: @ 8/20us | | Ppk | 220 | W |
| Peak Pulse Current: @ 8/20us | | Ipp | 9 | A |

## PinConfiguration



Marking: 12VK4

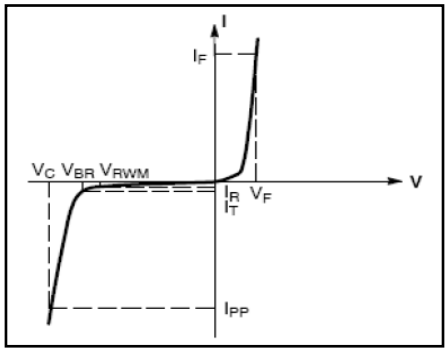



| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| | INCHES | | MM | | |
| DIM | MIN | MAX | MIN | MAX | NOTE |
| A | .012 | .020 | 0.30 | 0.50 | |
| B | .059 | .067 | 1.50 | 1.70 | |
| C | .104 | .116 | 2.65 | 2.95 | |
| D | .037 | | 0.95BSC | | |
| G | .074 | | 1.90BSC | | |
| H | .111 | .119 | 2.82 | 3.02 | |
| J | .000 | .006 | 0.00 | 0.15 | |
| K | .035 | .051 | 0.90 | 1.30 | |
| L | .012 | .024 | 0.30 | 0.60 | |
| M | .003 | .008 | 0.08 | 0.22 | |

# ESD12VK4

## ELECTRICAL PARAMETER

| Symbol | Parameter |
|---|---|
| $V_C$ | Clamping Voltage @ $I_{PP}$ |
| $I_{PP}$ | Peak Pulse Current |
| $V_{BR}$ | Breakdown Voltage @ $I_T$ |
| $I_T$ | Test Current |
| $I_R$ | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{RWM}$ | Reverse Standoff Voltage |
| $V_F$ | Forward Voltage@ $I_F$ |
| $I_F$ | Forward Current |




**V-I characteristics for a uni-directional TVS**

## ELECTRICAL CHARACTERISTICS($T_a$=25℃ unless otherwise specified)

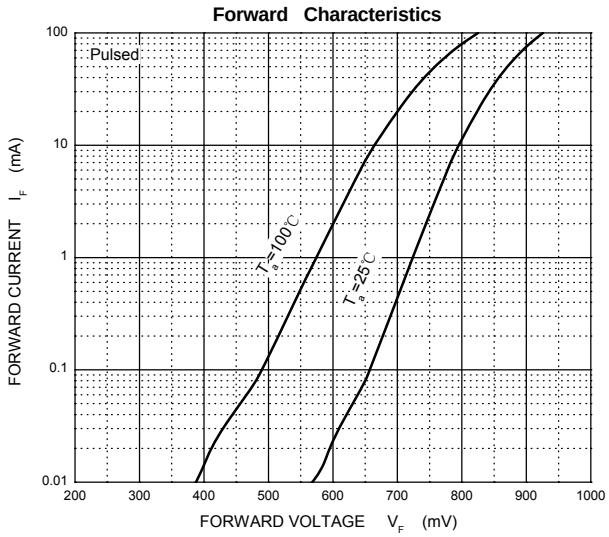
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Reverse stand off voltage | $V_{RWM}$ (1) | | | | 12 | V |
| Reverse leakage current | $I_R$ | $V_{RWM}$=12V | | | 1 | μA |
| Breakdown voltage | $V_{(BR)}$ | $I_T$=1mA | 13.3 | | 16.5 | V |
| Clamping voltage | $V_C$ (2) | $I_{PP}$=9A | | | 24 | V |
| Forward voltage | $V_F$ | $I_F$=10mA | | | 0.9 | V |
| Junction capacitance | $C_J$ | $V_R$=0V,f=1MHz | | 45 | | pF |

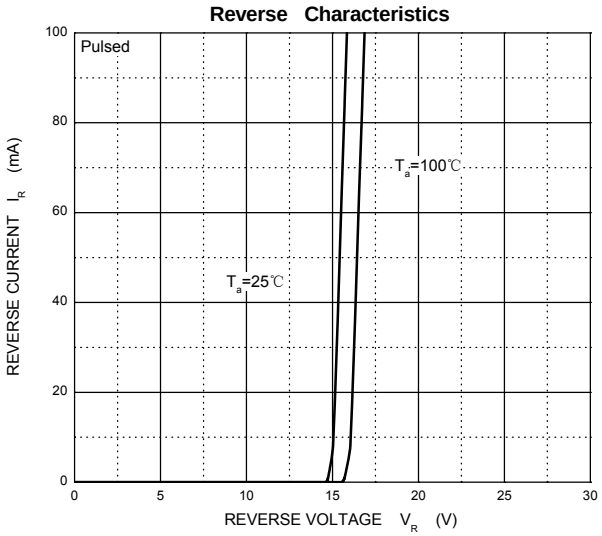
(1).Other voltages available upon request.

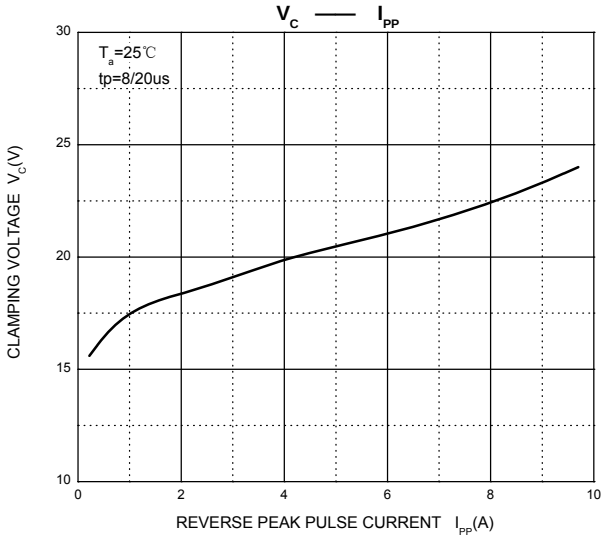
(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

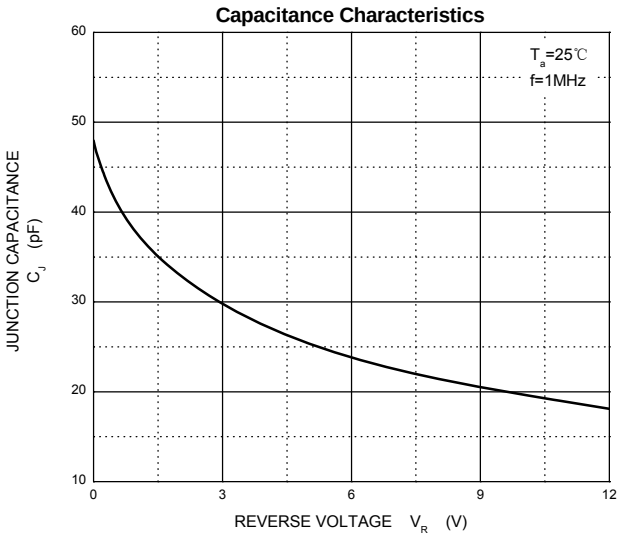
# ESD12VK4

## TYPICAL CHARACTERISTICS



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## Ordering Information :

| Device | Packing |
|---|---|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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|---|
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