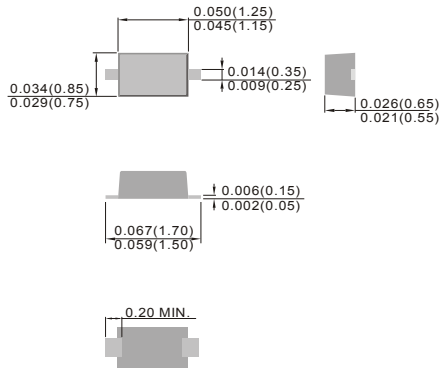
PANJIT SEMI CONDUCTOR

# PJSD03TS-AU~PJSD36TS-AU

## SINGLE LINE TVS DIODE FOR ESD PROTECTION PORTABLE ELECTRONICS

**VOLTAGE** 3~36 Volt **POWER** 120 Watt

**SOD-523** Unit : inch(mm)

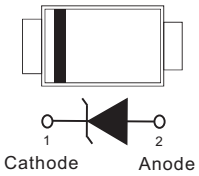



### FEATURES

- 120 Watts peak pules power( tp=8/20μs)
- Small package for use in portable electronics
- Suitable replacement for MLV'S in ESD protection applications
- Low clamping voltage and leakage current
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### APPLICATIONS

- Case: SOD-523 plastic
- Terminals : Solderable per MIL-STD-750,Method 2026
- Approx Weight: 0.00005 ounces, 0.0014 grams
- Marking : PJSD03TS-AU : KD
  PJSD05TS-AU : KE
  PJSD07TS-AU : KF
  PJSD08TS-AU : KR
  PJSD12TS-AU : LE
  PJSD15TS-AU : LM
  PJSD24TS-AU : LZ
  PJSD36TS-AU : MP




### MAXIMUM RATINGS AND ELECTRICAL CHATACTERISTICS

ABSOLUTE MAXIMUM RATING

| Rating | Symbol | Value | Units |
|---|---|---|---|
| Peak Pulse Power Dissipation (tp=8/20 μs) | $P_{PP}$ | 120 | W |
| ESD Voltage | $V_{ESD}$ | 25 | KV |
| Operating Temperature | $T_J$ | -50 to +150 | °C |
| Storage Temperature | $T_{STG}$ | -50 to +150 | °C |

### ELECTRICAL CHATACTERISTICS

PJSD03TS-AU

| Parameter | Symbol | Conditions | Min. | Typical | Max. | Units |
|---|---|---|---|---|---|---|
| Reverse Stand-Off Voltage | $V_{RWM}$ | - | - | - | 3.3 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$=1mA | 4 | - | - | V |
| Reverse Leakage Current | $I_R$ | $V_R$=3.3V | - | - | 200 | μA |
| Clamping Voltage(8/20μs) | $V_C$ | $I_{PP}$=5A | - | - | 6.5 | V |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias=f=1MHz | - | - | 200 | pF |
| Off State Junction Capacitance | $C_J$ | 3.3Vdc Bias=f=1MHz | - | - | 100 | pF |

# PJSD03TS-AU~PJSD36TS-AU

| PJSD05TS-AU | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Symbol | Conditions | Min. | Typical | Max. | Units |
| Reverse Stand-Off Voltage | $V_{RWM}$ | - | - | - | 5 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$=1mA | 6.0 | - | - | V |
| Reverse Leakage Current | $I_R$ | $V_R$=5V | - | - | 5 | μA |
| Clamping Voltage(8/20μs) | $V_C$ | $I_{PP}$=5A | - | - | 9 | V |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias=f=1MHz | - | - | 110 | pF |
| Off State Junction Capacitance | $C_J$ | 5Vdc Bias=f=1MHz | - | - | 60 | pF |

| PJSD07TS-AU | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Symbol | Conditions | Min. | Typical | Max. | Units |
| Reverse Stand-Off Voltage | $V_{RWM}$ | - | - | - | 7.0 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$=1mA | 7.5 | - | - | V |
| Reverse Leakage Current | $I_R$ | $V_R$=7V | - | - | 150 | nA |
| Clamping Voltage(8/20μs) | $V_C$ | $I_{PP}$=8.8A | - | - | 22.7 | V |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias=f=1MHz | - | - | 85 | pF |

| PJSD08TS-AU | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Symbol | Conditions | Min. | Typical | Max. | Units |
| Reverse Stand-Off Voltage | $V_{RWM}$ | - | - | - | 8 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$=1mA | 8.5 | - | - | V |
| Reverse Leakage Current | $I_R$ | $V_R$=8V | - | - | 5 | μA |
| Clamping Voltage(8/20μs) | $V_C$ | $I_{PP}$=5A | - | - | 13 | V |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias=f=1MHz | - | - | 70 | pF |

| PJSD12TS-AU | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Symbol | Conditions | Min. | Typical | Max. | Units |
| Reverse Stand-Off Voltage | $V_{RWM}$ | - | - | - | 12 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$=1mA | 13.3 | - | - | V |
| Reverse Leakage Current | $I_R$ | $V_R$=12V | - | - | 5 | μA |
| Clamping Voltage(8/20μs) | $V_C$ | $I_{PP}$=5A | - | - | 17 | V |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias=f=1MHz | - | - | 60 | pF |

# PJSD03TS-AU~PJSD36TS-AU

| PJSD15TS-AU | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Symbol | Conditions | Min. | Typical | Max. | Units |
| Reverse Stand-Off Voltage | $V_{RWM}$ | - | - | - | 15 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$=1mA | 16.6 | - | - | V |
| Reverse Leakage Current | $I_R$ | $V_R$=15V | - | - | 5 | μA |
| Clamping Voltage(8/20μs) | $V_C$ | $I_{PP}$=5A | - | - | 22 | V |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias=f=1MHz | - | - | 50 | pF |

| PJSD24TS-AU | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Symbol | Conditions | Min. | Typical | Max. | Units |
| Reverse Stand-Off Voltage | $V_{RWM}$ | - | - | - | 24 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$=1mA | 26.7 | - | - | V |
| Reverse Leakage Current | $I_R$ | $V_R$=24V | - | - | 5 | μA |
| Clamping Voltage(8/20μs) | $V_C$ | $I_{PP}$=3A | - | - | 32 | V |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias=f=1MHz | - | - | 25 | pF |

| PJSD36TS-AU | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Symbol | Conditions | Min. | Typical | Max. | Units |
| Reverse Stand-Off Voltage | $V_{RWM}$ | - | - | - | 36 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$=1mA | 40 | - | - | V |
| Reverse Leakage Current | $I_R$ | $V_R$=36V | - | - | 5 | μA |
| Clamping Voltage(8/20μs) | $V_C$ | $I_{PP}$=1A | - | - | 55 | V |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias=f=1MHz | - | - | 20 | pF |

# PJSD03TS-AU~PJSD36TS-AU

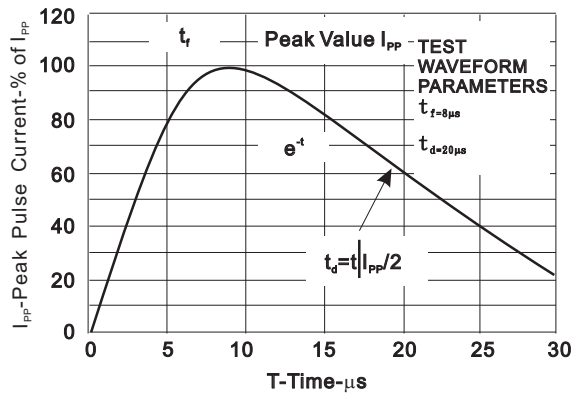



FIG. 1- Pulse Wave Form

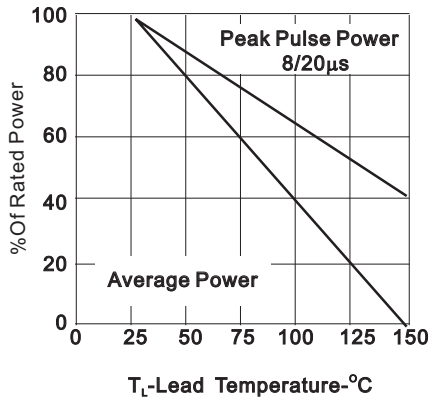



FIG. 2-Power Derating Curve

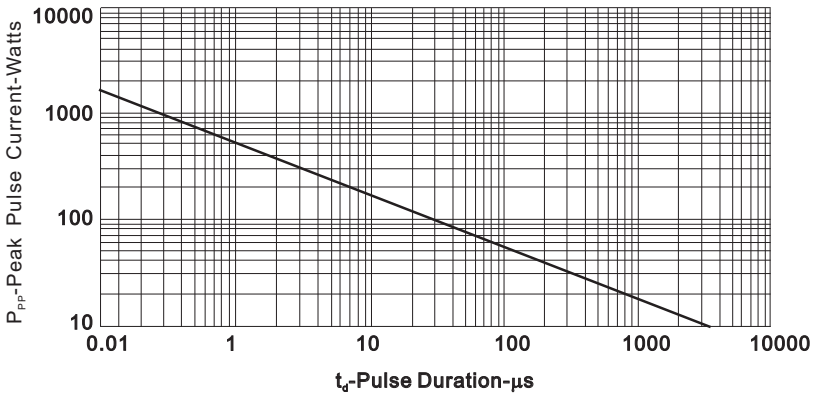



FIG. 3-Peak Pulse Power vs Pulse Time

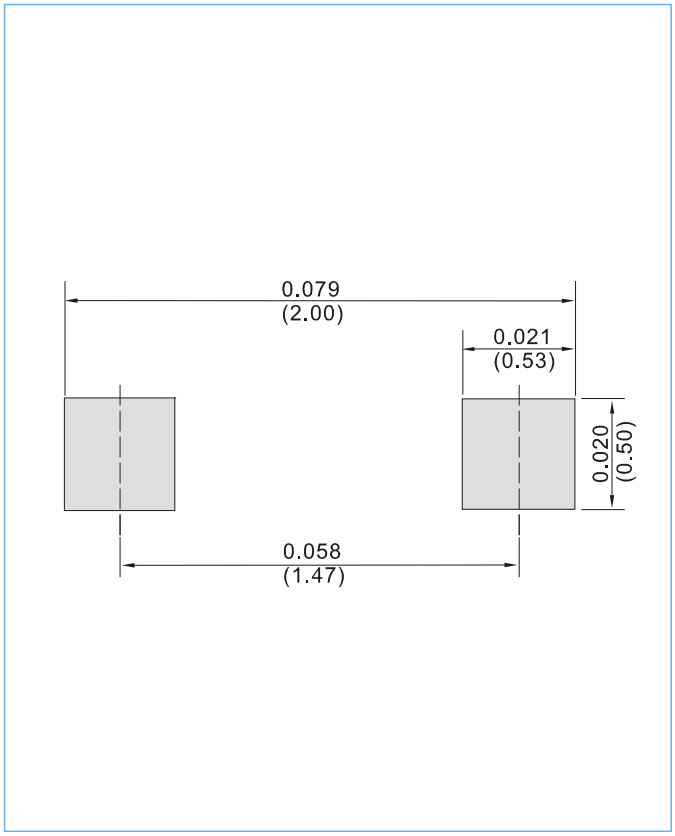
# PJSD03TS-AU~PJSD36TS-AU

## Product and Packing Information

| Part No. | Package Type | Packing Type | Marking |
|---|---|---|---|
| PJSD03TS-AU | SOD-523 | 5K pcs / 7" reel | KD |
| PJSD03TS-AU | SOD-523 | 12K pcs / 13" reel | KD |

## MOUNTING PAD LAYOUT

SOD-523 Unit : inch(mm)



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