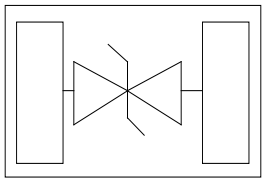
# Low Capacitance Bidirectional Mocro Packaged TVS Diodes for ESD Protection

## Features

- Peak Power Dissipation −200W (8 x 20 us Waveform)
- Stand-off Voltage: 36V
- Protects I/O or Power Port
- Low Clamping Voltage
- Low Leakage
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- ROHS compliant
- Solid-state TVS Process technology

**DFN1006**

**PIN CONFIGURATION**



## Main applications

- LED Drive Line
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- MP3 Players

## Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-5 (Lightning)2.5A (8/20μs)

**Marking :** T6

## Ordering Information

| Device | Qty per Reel | Reel Size |
|---|---|---|
| YSCLAMP3611P | 10000 / Tape & Reel | 7 Inch |

# DEVICE CHARACTERISTICS

## YSCLAMP3611P

| Maximum ratings (Tamb=25℃ Unless Otherwise Specified) | | | |
|---|---|---|---|
| **Parameter** | **Symbol** | **Value** | **Unit** |
| Peak Pulse Power (tp=8/20μs waveform) (Note 1) | $P_{PPP}$ | 200 | Watts |
| ESD Rating per IEC61000-4-2： Contact<br>Air | | 8<br>15 | KV |
| Lead Soldering Temperature | $T_L$ | 260 (10 sec.) | ℃ |
| Operating Temperature Range | $T_J$ | -55 ~ 150 | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55 ~ 150 | ℃ |
| Lead Solder Temperature − Maximum (10 Second Duration) | $T_L$ | 260 | ℃ |

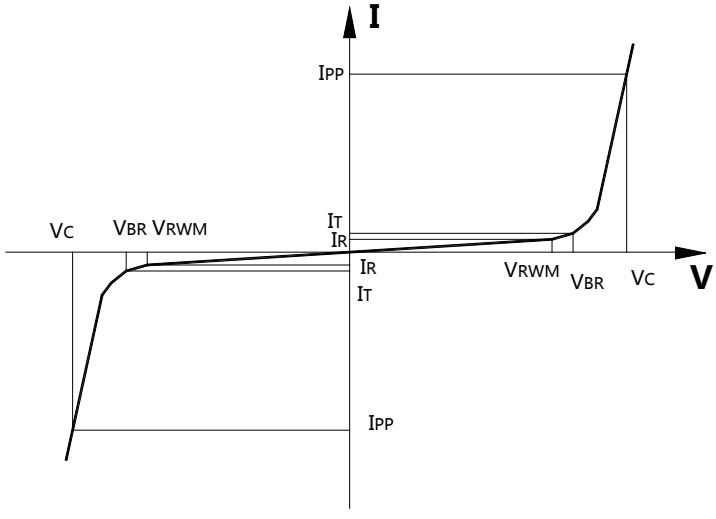
*Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.*

**Other voltages may be available upon request.*

*Note : 1. Non-repetitive current pulse, per Figure 1.*

| Electrical characteristics ( Tamb=25℃ Unless Otherwise Specified) | | | | | | |
|---|---|---|---|---|---|---|
| **Symbol** | **Parameter** | **Conditions** | **Min.** | **Typ.** | **Max.** | **Units** |
| $V_{RWM}$ | Reverse Working Voltage | | | | 36 | V |
| $V_{BR}$ | Reverse Breakdown Voltage | IT = 1mA, | 40 | | | V |
| $I_R$ | Reverse Leakage Current | $V_{RWM}$ = 36V, | | 0.05 | 1 | μA |
| $V_C$ | Clamping Voltage | $I_{PP}$ = 1A, tp =8/20μs, | | | 65 | V |
| | | $I_{PP}$ =2.5A, tp =8/20μs, | | 80 | 110 | V |
| $C_J$ | Junction Capacitance | $V_R$ = 0V, f = 1MHz, | | 14 | 25 | pF |

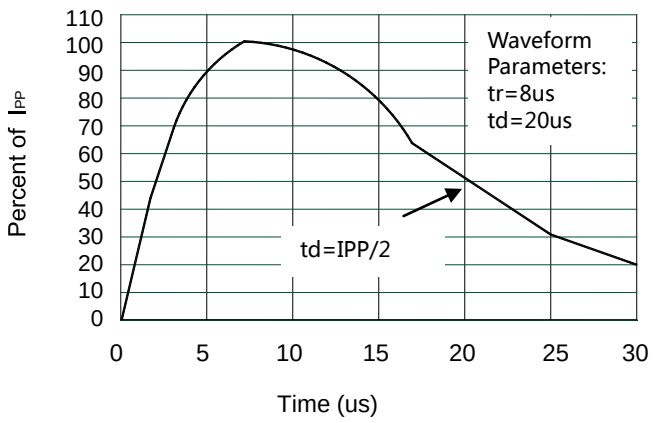
| Symbol | Parameter |
|---|---|
| $V_{RWM}$ | Working Peak Reverse Voltage |
| $V_{BR}$ | Breakdown Voltage @ $I_T$ |
| $V_C$ | Clamping Voltage @ $I_{PP}$ |
| $I_T$ | Test Current |
| $I_{RM}$ | Leakage current at $V_{RWM}$ |
| $I_{PP}$ | Peak pulse current |
| $C_O$ | Off-state Capacitance |
| $C_J$ | Junction Capacitance |



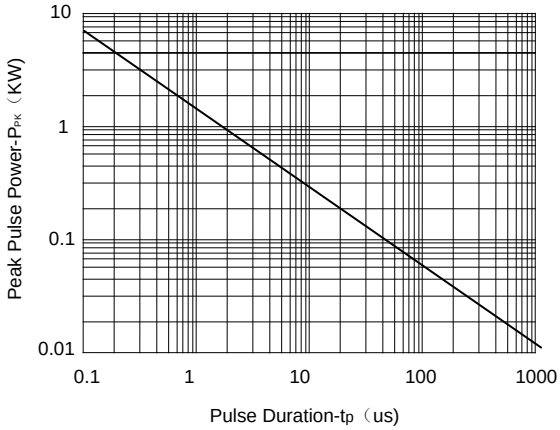
# DEVICE CHARACTERISTICS

YSCLAMP3611P

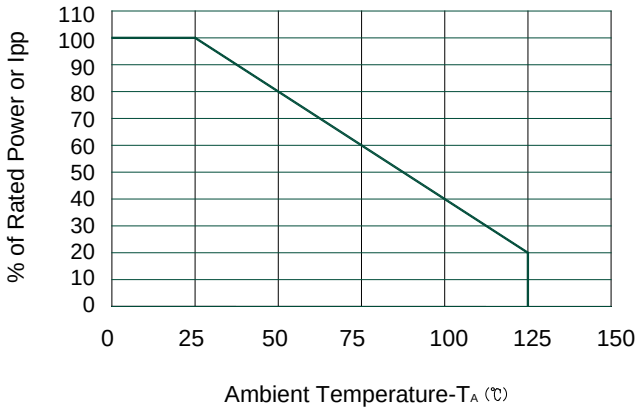
## Typical electrical characterist applications




**Pulse Waveform**




**Non-Repetitive Peak Pulse Power vs. Pulse Time**




**Power Derating Curve**

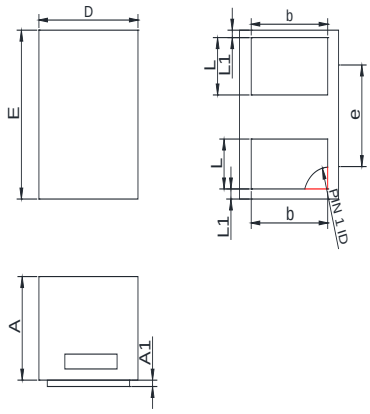
# PACKAGE OUTLINE & DIMENSIONS

YSCLAMP3611P

## Mechanical Data

Case:DFN1006

Case Material: Molded Plastic. UL Flammability




| DIM | Millimeters | |
|---|---|---|
| | Min | Max |
| A | 0.30 | 0.50 |
| A1 | 0.00 | 0.05 |
| D | 0.55 | 0.65 |
| E | 0.95 | 1.05 |
| b | 0.25 | 0.60 |
| e | 0.65TYP | |
| L | 0.15 | 0.35 |
| L1 | 0.05REF | |