

SOT-23 Plastic-Encapsulate ESD Protection Diodes

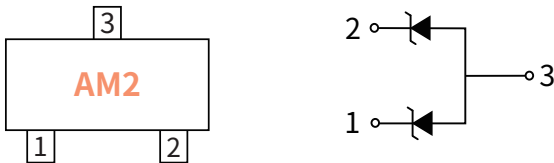
Features

- Low leakage current
- SOT-23 surface mount package
- IEC 61000-4-2 (ESD Air): ±30kV
- IEC 61000-4-2 (ESD Contact): ±30kV
- IEC 61000-4-5 (Lightning 8/20μs): 16A

Applications

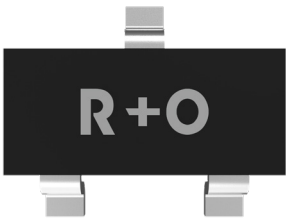
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Set Top Box
- Server and Desktop PC

Function Diagram



Reverse Working Voltage  
12V Max.  
Normal Capacitance  
60pF(Typ.)

SOT-23

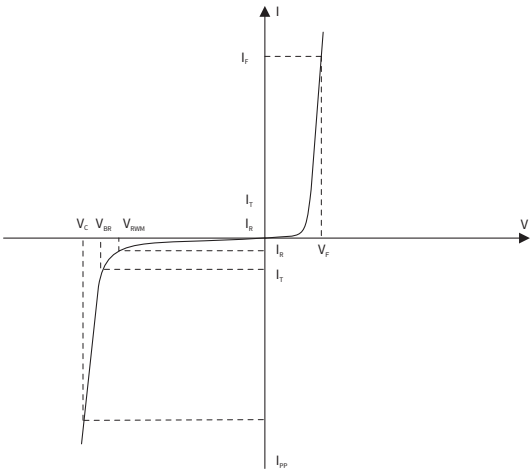


Maximum Ratings (Ta=25°C Unless otherwise specified)

| SYMBOL           | PARAMETER                           | CONDITIONS                      | VALUE       | UNIT |
|------------------|-------------------------------------|---------------------------------|-------------|------|
| V <sub>ESD</sub> | Electrostatic Discharge Voltage     | ESD per IEC 61000-4-2( Air )    | ±30         | KV   |
|                  |                                     | ESD per IEC 61000-4-2( Contact) | ±30         | KV   |
| P <sub>PP</sub>  | Peak Pulse Power                    | tp = 8/20 μs                    | 430         | W    |
| I <sub>PP</sub>  | Rated Peak Pulse Current            | tp = 8/20 μs                    | 16          | A    |
| T <sub>J</sub>   | Operating JunctionTemperature Range | —                               | -55 to +125 | °C   |
| T <sub>STG</sub> | Operating JunctionTemperature Range | —                               | -55 to +150 | °C   |

Electrical Parameter

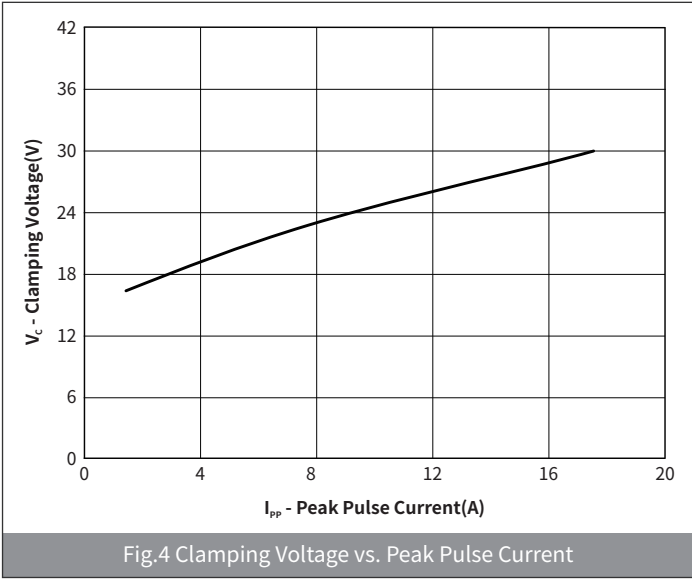
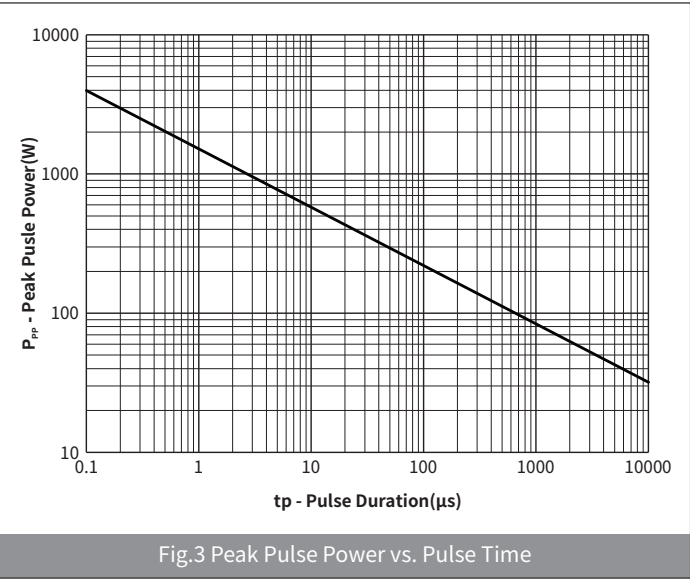
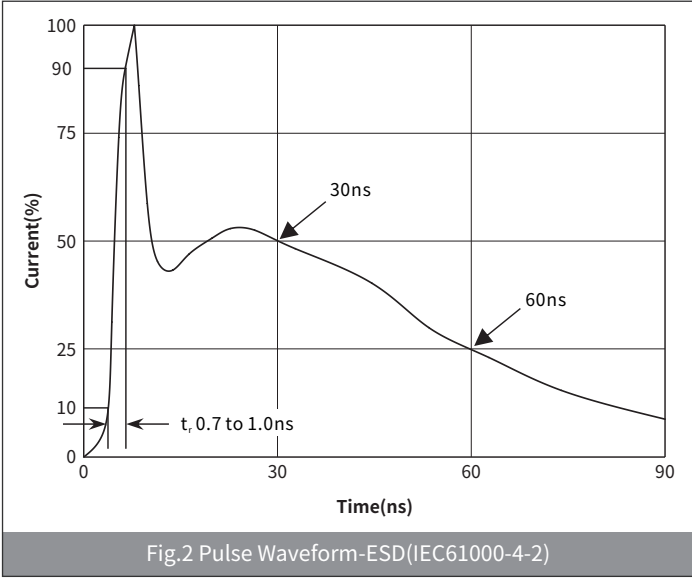
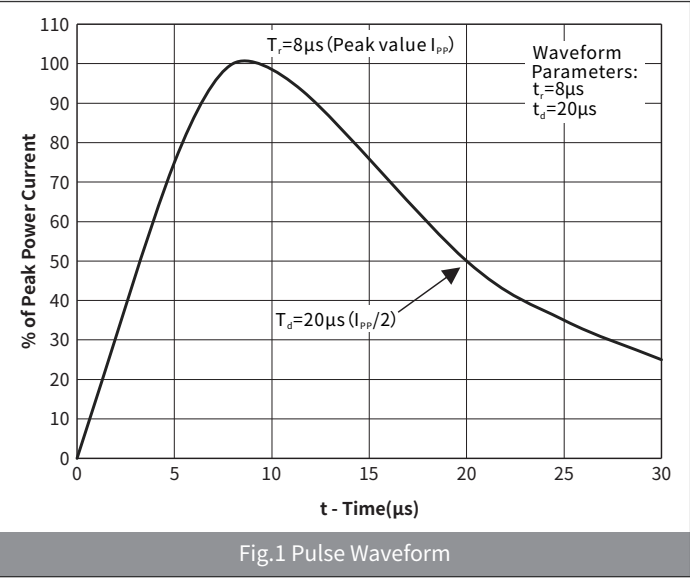
| SYMBOL           | PARAMETER                                        |
|------------------|--------------------------------------------------|
| V <sub>C</sub>   | Clamping Voltage @ I <sub>PP</sub>               |
| V <sub>BR</sub>  | Breakdown Voltage @ I <sub>T</sub>               |
| I <sub>PP</sub>  | Peak Pulse Current                               |
| I <sub>T</sub>   | Test Current                                     |
| I <sub>R</sub>   | Reverse Leakage Current @ VRWM                   |
| V <sub>RWM</sub> | Peak Reverse Working Voltage                     |
| P <sub>PP</sub>  | Peak Pulse Power Dissipation                     |
| C <sub>J</sub>   | Junction Capacitance @ V <sub>R</sub> =0V,f=1MHz |
| I <sub>F</sub>   | Forward Current                                  |
| V <sub>F</sub>   | Forward Voltage @I <sub>F</sub>                  |



● Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER                    | SYMBOL    | CONDITION                               | Min  | Typ | Max  | UNIT    |
|------------------------------|-----------|-----------------------------------------|------|-----|------|---------|
| Peak Reverse Working Voltage | $V_{RWM}$ | $T_a=25^{\circ}C$                       | —    | —   | 12   | V       |
| Breakdown Voltage            | $V_{BR}$  | $I_T=1.0mA, T_a=25^{\circ}C$            | 13.3 | —   | 16   | V       |
| Reverse Leakage Current      | $I_R$     | $V_{RWM}=12V, T_a=25^{\circ}C$          | —    | —   | 1.0  | $\mu A$ |
| Clamping Voltage             | $V_C$     | $I_{PP}=1.0A, t_p=8/20\mu s$            | —    | —   | 18   | V       |
|                              |           | $I_{PP}=16A, t_p=8/20\mu s$             | —    | —   | 27.6 |         |
| Junction Capacitance         | $C_J$     | $V_R=0V, f=1MHz, Pin1 \text{ to } Pin2$ | —    | 60  | 90   | pF      |

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



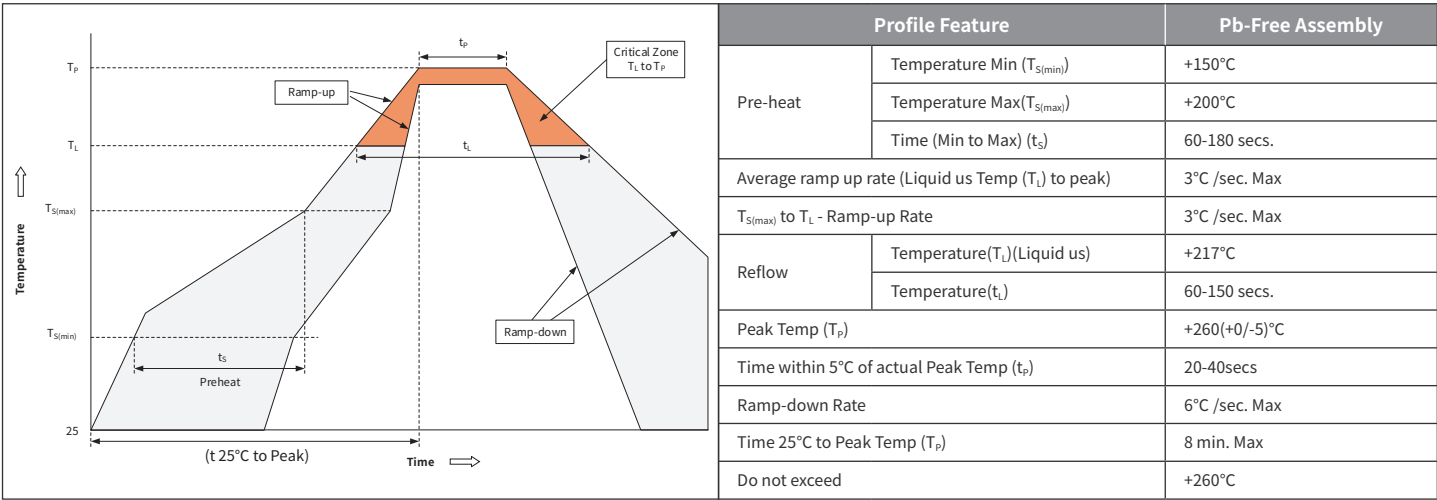
# H12VNT2U

Uni-directional 12V Normal Capacitance ESD

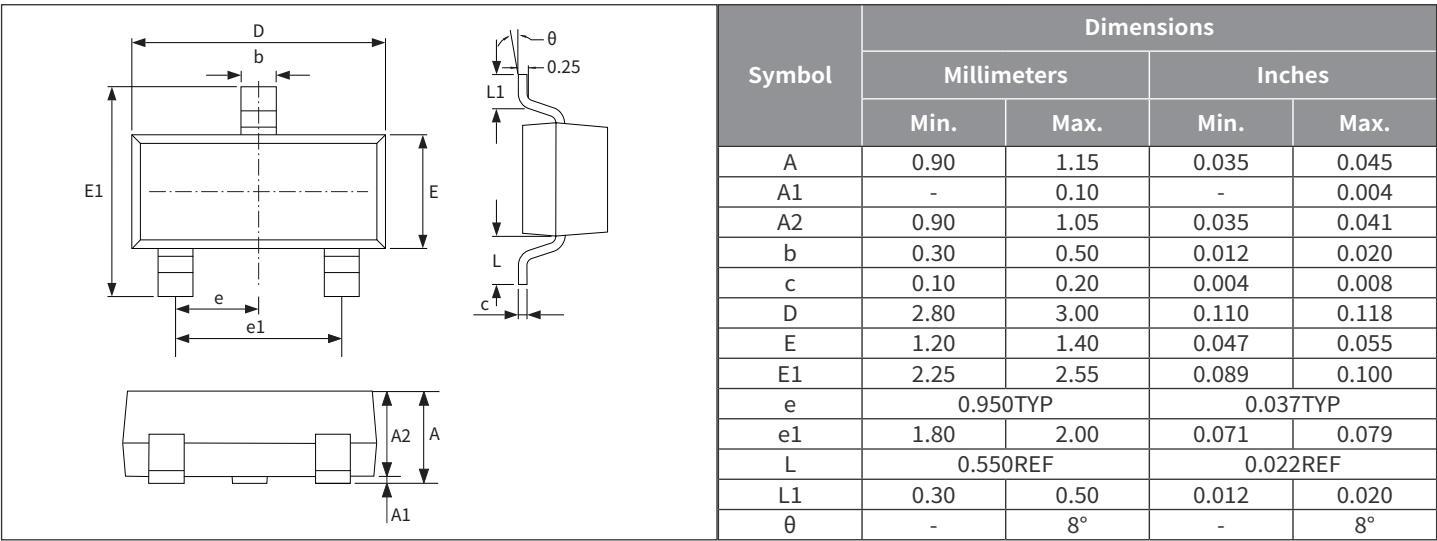
## ● Ordering Information

| PREFERED P/N | PACKAGE | SIZE(mm)        | DELIVERY MODE | MPQ(PCS) |
|--------------|---------|-----------------|---------------|----------|
| H12VNT2U     | SOT-23  | 2.90×2.40×1.025 | 7" REEL       | 3000     |

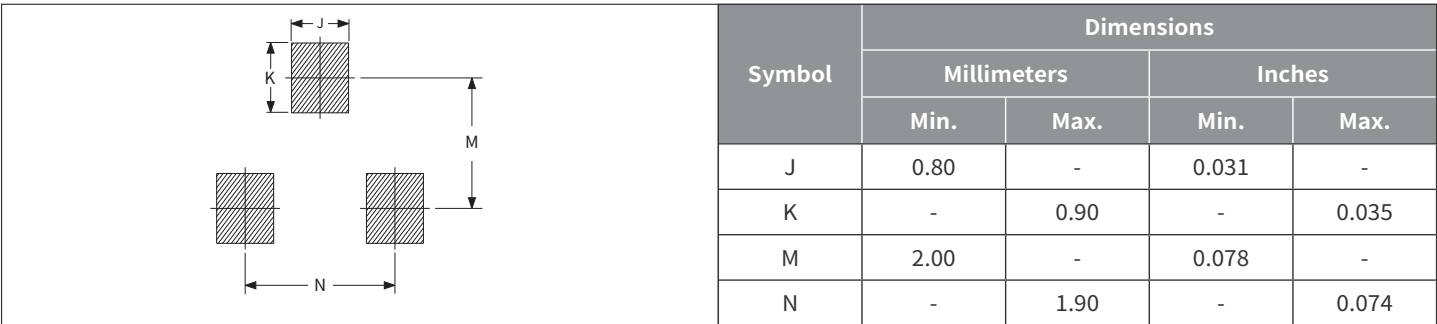
## ● Recommended Soldering Conditions



## ● Package Outline Dimensions (SOT-23)



## ● Suggested Pad Layout



Note :  
This soldering footprint is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.