

Features

- 36 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Small Body Outline Dimensions
- Protects one I/O or Power Line
- Low Clamping Voltage
- Working Voltage: 5.0V
- Low Leakage Current



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 18kV$ (air), $\pm 15kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4.5A (8/20 μs)

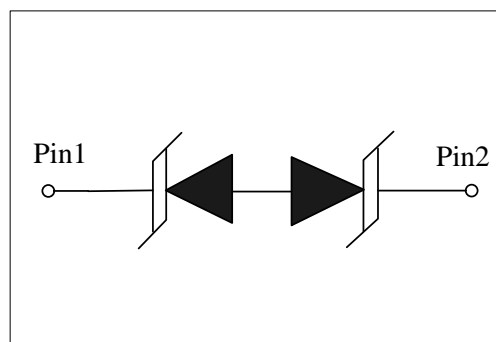
Mechanical Characteristics

- DFN0603-2L package
- Marking : Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

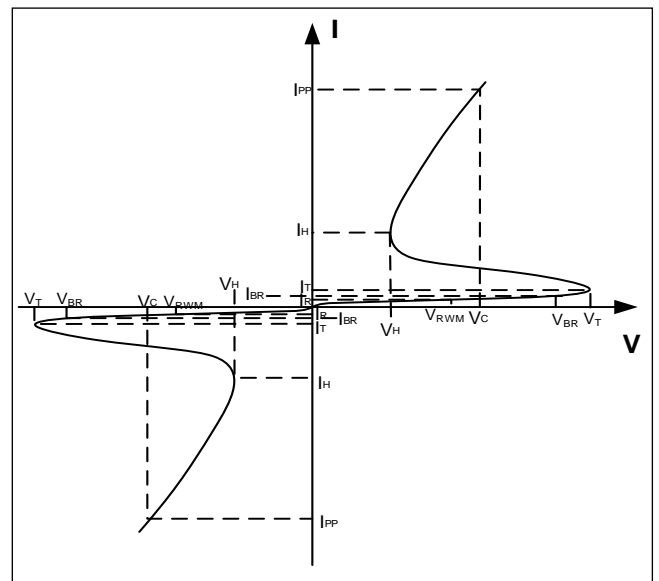
Schematic & PIN Configuration



| Absolute Maximum Rating | | | |
|--|-----------|--------------|-------|
| Rating | Symbol | Value | Units |
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{PP} | 36 | W |
| Peak Pulse Current ($t_p = 8/20\mu s$) | I_{PP} | 4.5 | A |
| Operating Temperature | T_J | -55 to + 125 | °C |
| Storage Temperature | T_{STG} | -55 to +150 | °C |

Electrical Parameters (T=25°C)

| Symbol | Parameter |
|-----------|-------------------------------------|
| I_{PP} | Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Reverse Stand-Off Voltage |
| I_{BR} | Reverse Stand-Off Current |
| I_R | Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| V_C | Test Voltage |
| I_T | Test Current |
| V_H | Holding Voltage |
| I_H | Holding current |



Electrical Characteristics

| WS05DTUMS-BL | | | | | | |
|-----------------------------------|-----------|---------------------------------------|---------|---------|---------|----------|
| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 6.0 | | | V |
| Holding Current | I_H | $T=25^\circ C$ | | 100 | | mA |
| Reverse Leakage Current | I_R | $V_{RWM}=5.0V, T=25^\circ C$ | | | 200 | nA |
| Clamping Voltage | V_C | $I_{PP}=4.5A, t_p=8/20\mu s$ | | 5.4 | 8 | V |
| Dynamic Resistance ^{1,2} | R_{DYN} | $TLP=0.2/100ns$ | | 0.34 | | Ω |
| ESD Clamping Voltage ¹ | V_C | $I_{PP} = 4A, t_p = 0.2/100ns (TLP)$ | | 4.2 | | V |
| ESD Clamping Voltage ¹ | V_C | $I_{PP} = 16A, t_p = 0.2/100ns (TLP)$ | | 8.3 | | V |
| Junction Capacitance | C_j | $V_R=0V, f=1MHz$ | | 0.6 | 0.7 | pF |

Notes : 1、 TLP Setting : $t_p=100ns, t_r=0.2ns, I_{TLP}$ and V_{TLP} sample window: $t_1=70ns$ to $t_2=90ns$.
 2、 Dynamic resistance calculated from $I_{PP}=4A$ to $I_{PP}=16A$ using "Best Fit".

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

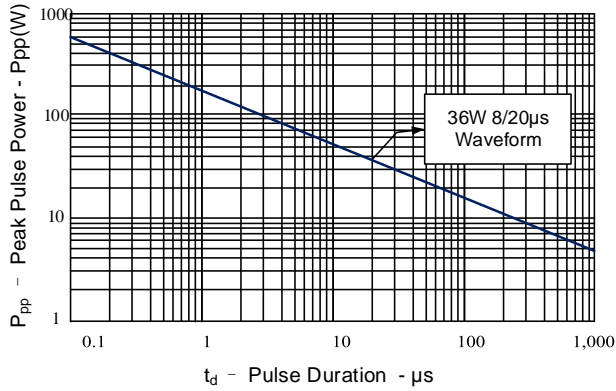


Figure 2: Power Derating Curve

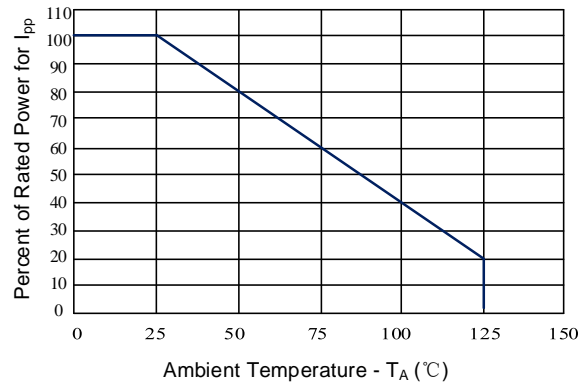


Figure 3: Clamping Voltage vs. Peak Pulse Current

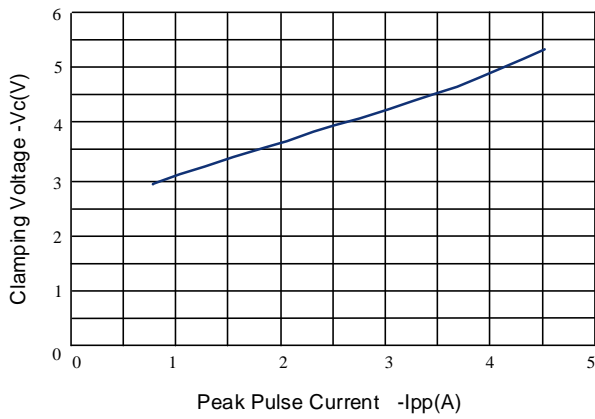


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

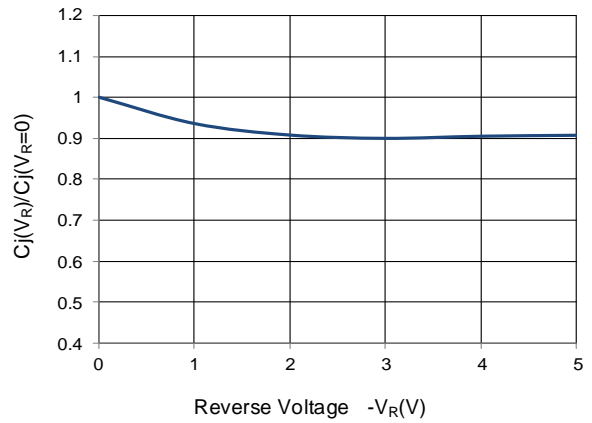


Figure 5: TLP Positive I-V Curve

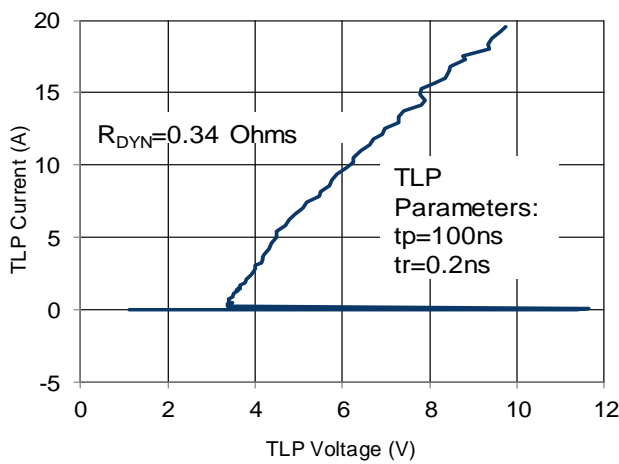
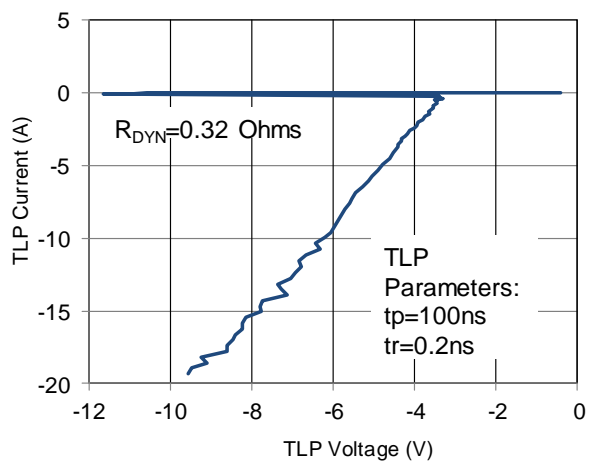
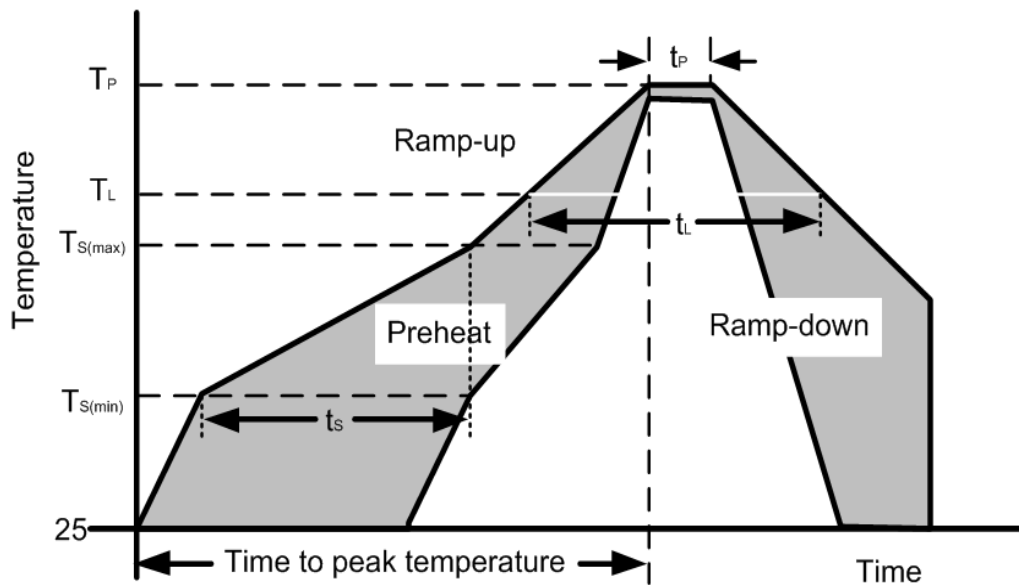


Figure 6: TLP Negative I-V Curve



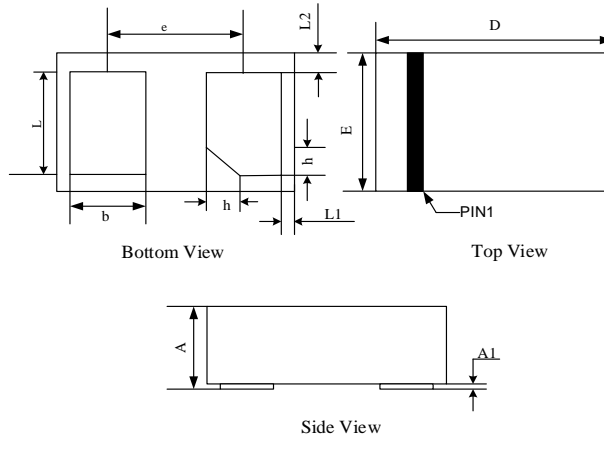
Soldering Parameters


| Reflow Condition | | Pb – Free assembly |
|--|----------------------------------|--------------------|
| Pre Heat | Temperature Min ($T_{S(min)}$) | 150°C |
| | Temperature Max ($T_{S(max)}$) | 200°C |
| | Time (min to max) (t_s) | 60 – 190 secs |
| Average ramp up rate (Liquidus Temp) (T_L) to peak | | 5°C/second max |
| $T_{S(max)}$ to T_L —Ramp-up Rate | | 5°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Temperature (t_L) | 60 – 150 seconds |
| Peak Temperature (T_P) | | 260+0/-5 °C |
| Time within actual peak Temperature (t_p) | | 20 – 40 seconds |
| Ramp-down Rate | | 5°C/second max |
| Time 25°C to peak Temperature (T_P) | | 8 minutes Max. |
| Do not exceed | | 280°C |



Outline Drawing –DFN0603-2L

PACKAGE OUTLINE

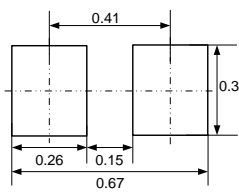





DFN0603-2L

| SYMBOL | MILLIMETERS | | | Dimension In Inches | | |
|--------|-------------|-------|-------|---------------------|-------|-------|
| | NOM | MIN | MAX | NOM | MIN | MAX |
| A | -- | 0.280 | 0.320 | -- | 0.011 | 0.013 |
| A1 | -- | -- | 0.050 | -- | -- | 0.002 |
| D | 0.620 | 0.590 | 0.640 | 0.024 | 0.023 | 0.025 |
| E | 0.320 | 0.290 | 0.340 | 0.013 | 0.011 | 0.013 |
| b | 0.190 | 0.160 | 0.220 | 0.007 | 0.006 | 0.009 |
| L | 0.240 | 0.210 | 0.270 | 0.009 | 0.008 | 0.011 |
| h | -- | 0.050 | 0.100 | -- | 0.002 | 0.004 |
| L1 | 0.040REF | | | 0.002REF | | |
| L2 | 0.040REF | | | 0.002REF | | |
| e | 0.350BSC | | | 0.014BSC | | |

Land Pattern



Marking Codes

| Part Number | Marking Code |
|--------------|--|
| WS05DTUMS-BL |  <p>U=Specific Device Code X=Month Code</p> |

Package Information

Qty: 15k/Reel

CONTACT INFORMATION

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For additional information, please contact your local Sales Representative.

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Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.

单击下面可查看定价，库存，交付和生命周期等信息

[>>WAY-ON\(维安\)](#)