

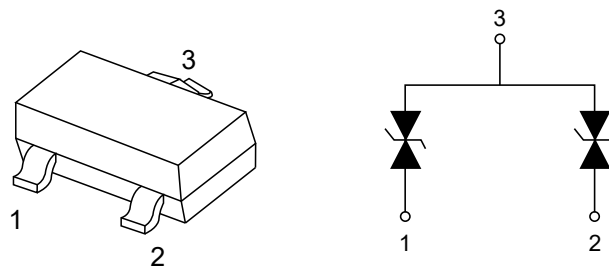
1.Features

- Bidirectional device
- Max. pulse power: 140W (8/20 μ s)
- Low clamping factor VCL/VBR
- Low leakage current

2.Applications

- Automotive interfaces

3.Pinning information



SOT-23

4.Absolute Maximum Ratings

| Parameter | | Symbol | Value | Units |
|---|--|-----------|------------|--------------|
| Peak pulse voltage | ISO 10605-C =150pF, R=330 Ω :Contact discharge | V_{PP} | 13 | kV |
| | Air discharge | | 13 | |
| | ISO 10605-C = 330pF, R=330 Ω : Contact discharge | | 10 | |
| | Air discharge | | 10 | |
| | ISO 10605-C = 330 pF, R=2 k Ω : Contact discharge | | 30 | |
| | Air discharge | | 30 | |
| Peak pulse power dissipation (8/20 μ s) T_j initial = T_{amb} | | P_{PP} | 140 | W |
| Peak pulse current (8/20 μ s) | | I_{PP} | 5.5 | A |
| Junction temperature range | | T_J | -55 to 150 | $^{\circ}$ C |
| Storage temperature range | | T_{STG} | -55 to 150 | $^{\circ}$ C |

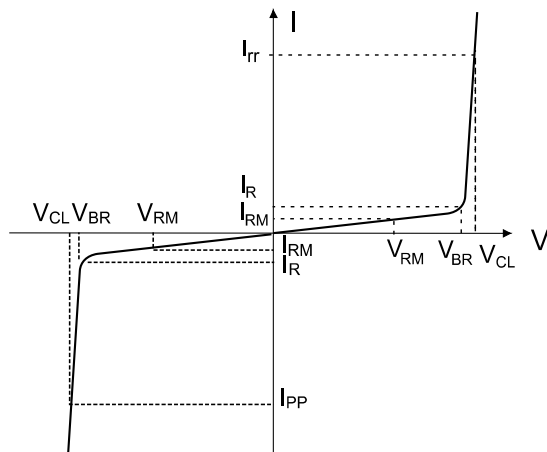


5. Electrical Characteristics

| Conditions | Symbol | Min | Typ | Max | Units |
|---|----------------------|-----|------|-----|--------------------------|
| $I_R=1\text{mA}$ | V_{BR} | 6 | | 10 | V |
| $V_{RM}=5\text{V}$ | I_R | | | 100 | nA |
| At $I_{PP}=1\text{A} - 8/20\mu\text{s}$ | V_{CL} | | | 12 | V |
| At $I_{PP}=4\text{A} - 8/20\mu\text{s}$ | | | | 17 | V |
| $V_{I/O}=0\text{V}$, $f=1\text{MHz}$, $V_{OSC}=30\text{mV}$ | $C_{I/O-GND}$ | | 0.95 | 1.2 | pF |
| | $\Delta C_{I/O-GND}$ | | 0.01 | | pF |
| $S_{21}=-3\text{ dB}$ | f_c | | 3 | | GHz |
| | $\alpha T^{(1)}$ | | 9 | | $10^{-4}/^\circ\text{C}$ |

Notes: 1. V_{BR} at $T_j=V_{BR}$ at $25^\circ\text{C} \times (1 + \alpha T \times (T_j - 25))$

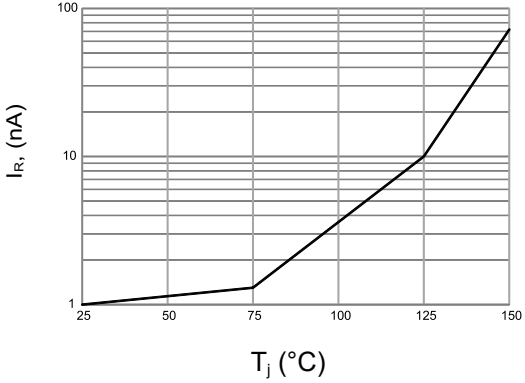
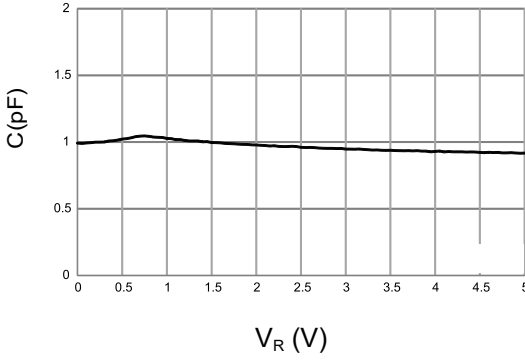
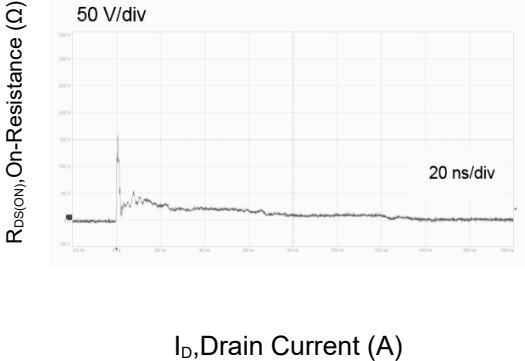
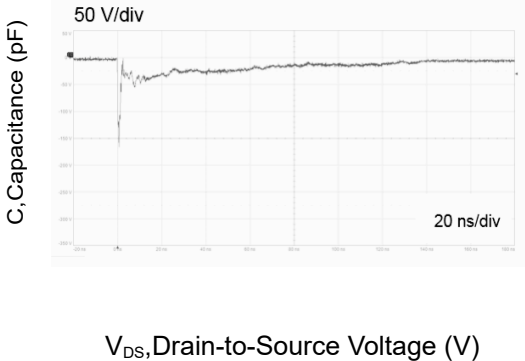
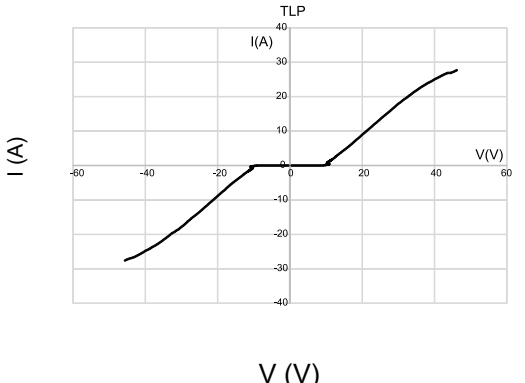
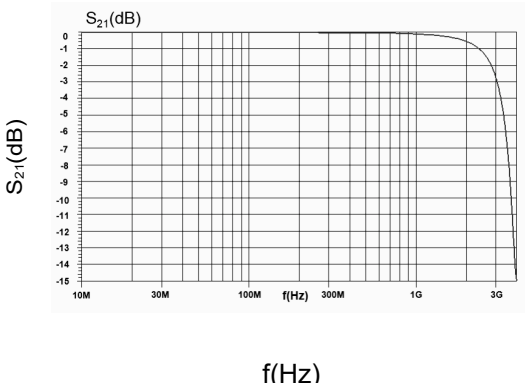
6. Electrical Parameters ($T_A=25^\circ\text{C}$ unless otherwise noted)



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

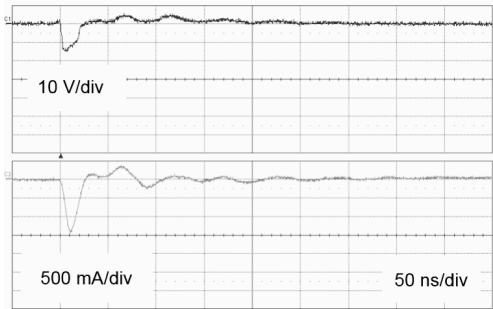
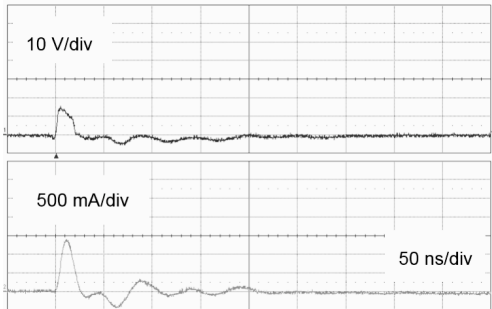
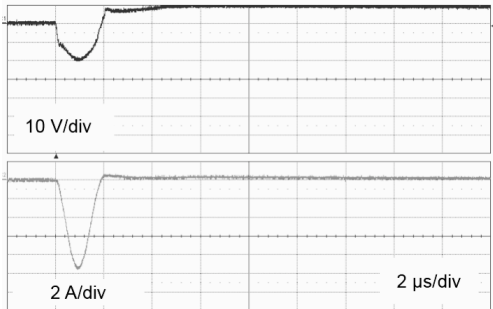


7.1Typical characteristic

| | |
|---|--|
|  |  |
| Figure 1: Leakage current versus junction temperature | Figure 2: Junction capacitance versus reverse applied voltage |
|  |  |
| Figure 3: . ESD response to ISO10605-C=150pF R=330Ω (+8 kV contact discharge) | Figure 4: ESD response to ISO10605-C=150 pF R=330 Ω (-8 kV contact discharge) |
|  |  |
| Figure 5: TLP | Figure 6: S21 attenuation |

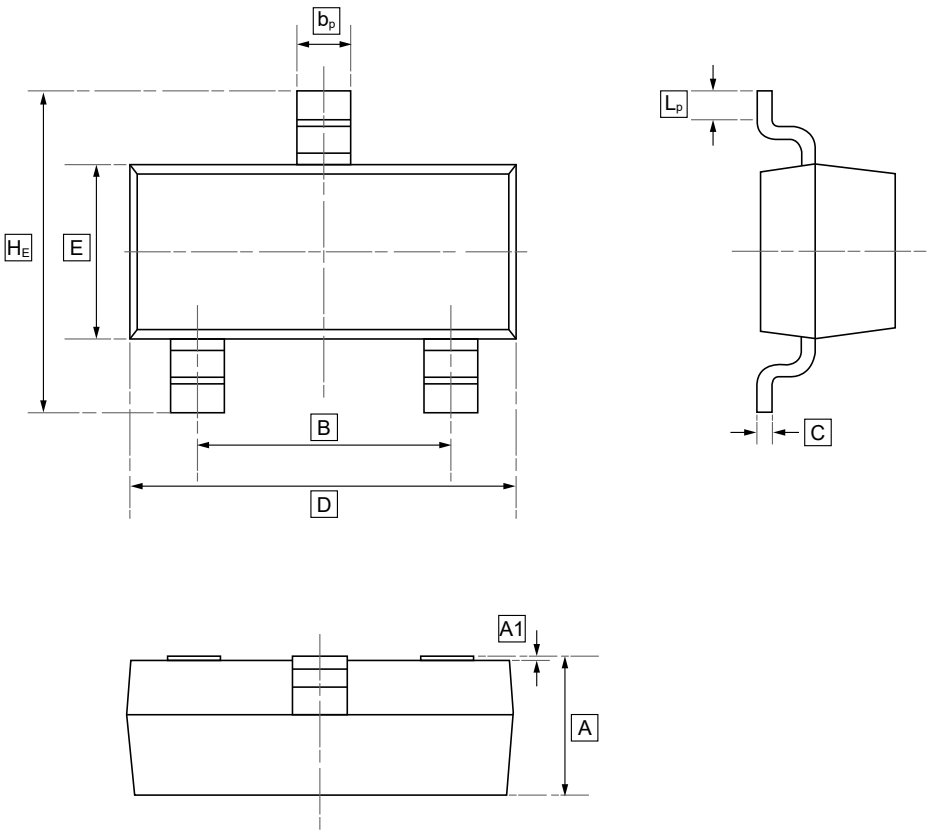


7.2Typical characteristic

| | |
|---|--|
|  |  |
| Figure 7: Fast transient pulse 3a (Us = -150 V) | Figure 8: Fast transient pulse 3b (Us = +150 V) |
|  |  |
| Figure 9: Slow transient pulse 2a (Us = - 85 V) | Figure 10: Slow transient pulse 2a (Us = + 85 V) |



8.SOT-23 Package Outline Dimensions

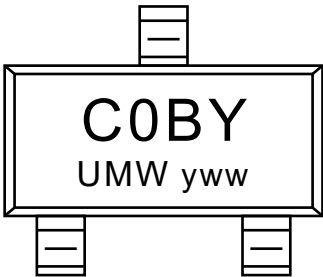


DIMENSIONS (mm are the original dimensions)

| Symbol | A | B | b _p | C | D | E | H _E | A1 | L _p |
|--------|------|------|----------------|------|------|------|----------------|-------|----------------|
| Min | 0.95 | 1.78 | 0.35 | 0.08 | 2.70 | 1.20 | 2.20 | 0.013 | 0.20 |
| Max | 1.40 | 2.04 | 0.50 | 0.19 | 3.10 | 1.65 | 3.00 | 0.100 | 0.50 |



9.Ordering information



yww: Batch Code

| Order Code | Package | Base QTY | Delivery Mode |
|-------------------|---------|----------|---------------|
| UMW ESDAVLC6-2BLY | SOT-23 | 3000 | Tape and reel |



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