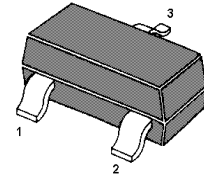
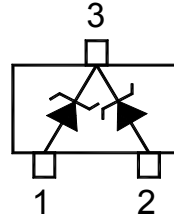


# ESDB1105CC

## ESD Protection Diode

### Features

- Low leakage current



1. Anode 2. Anode 3. Cathode  
SOT-23 Plastic Package

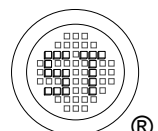
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter                                       | Symbol    | Value         | Unit             |
|---|-----------|---------------|------------------|
| Peak Pulse Power ( $t_p = 8/20 \mu\text{s}$ )   | $P_{PK}$  | 350           | W                |
| Peak Pulse Current ( $t_p = 8/20 \mu\text{s}$ ) | $I_{PP}$  | 8             | A                |
| IEC61000-4-2 (ESD) Air Contact                  | $V_{ESD}$ | $\pm 30$      | KV               |
| Operating Junction Temperature Range            | $T_j$     | - 55 to + 125 | $^\circ\text{C}$ |
| Storage Temperature Range                       | $T_{stg}$ | - 55 to + 150 | $^\circ\text{C}$ |

### Characteristics at $T_a = 25^\circ\text{C}$

| Parameter   | Symbol      | Min. | Typ.         | Max.     | Unit     |
|---|-------------|------|--------------|----------|----------|
| Reverse Stand-Off Voltage   | $V_{RWM}$   | 24   | -            | -        | V        |
| Reverse Breakdown Voltage at $I_R = 1 \text{ mA}$   | $V_{(BR)R}$ | 25.7 | -            | 28.4     | V        |
| Reverse Current at $V_{RWM} = 24 \text{ V}$   | $I_R$       | -    | -            | 100      | nA       |
| Clamping Voltage at $I_{PP} = 5 \text{ A}$ , $t_p = 8/20 \mu\text{s}$<br>at $I_{PP} = 8 \text{ A}$ , $t_p = 8/20 \mu\text{s}$   | $V_C$       | -    | -            | 40<br>44 | V        |
| ESD Clamping Voltage at $I_{TLP} = 4 \text{ A}$ , $t_p = 0.2/100 \text{ ns}$<br>at $I_{TLP} = 16 \text{ A}$ , $t_p = 0.2/100 \text{ ns}$                              | $V_{CL}$    | -    | 27.1<br>28.8 | -        | V        |
| Junction Capacitance at $V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$ , Pin 3 to Pin 1 or Pin 3 to Pin 2<br>at $V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$ , Pin 1 to Pin 2 | $C_j$       | -    | -            | 60<br>30 | pF       |
| Dynamic Resistance <sup>1)</sup>  | $R_{dyn}$   | -    | 0.14         | -        | $\Omega$ |

<sup>1)</sup> Dynamic Resistance calculated from  $I_{TLP} = 4 \text{ A}$  to  $I_{TLP} = 16 \text{ A}$ .



## Electrical Characteristic Curves

Fig 1. Pulse Waveform

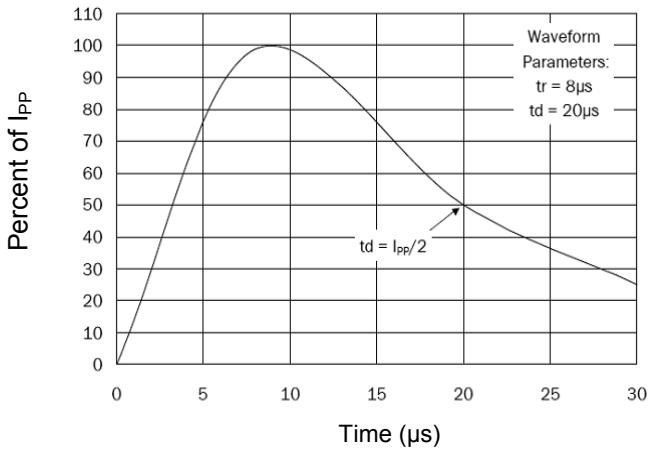


Fig 2. Power Derating Curve

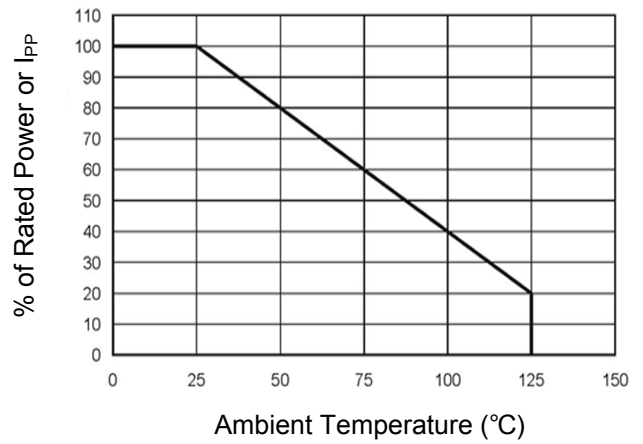


Fig 3. Clamping Voltage Curve

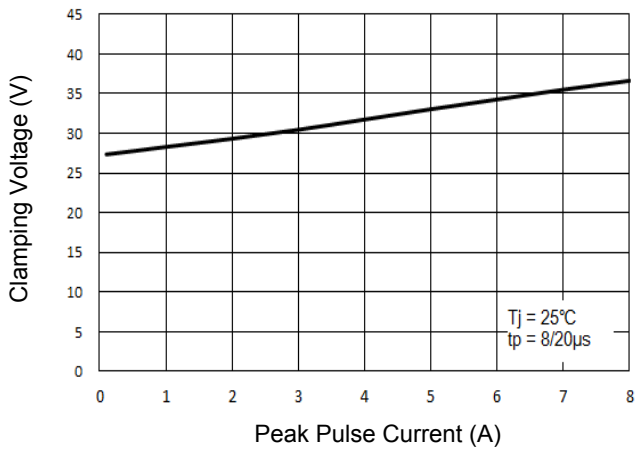


Fig 4. Junction Capacitance

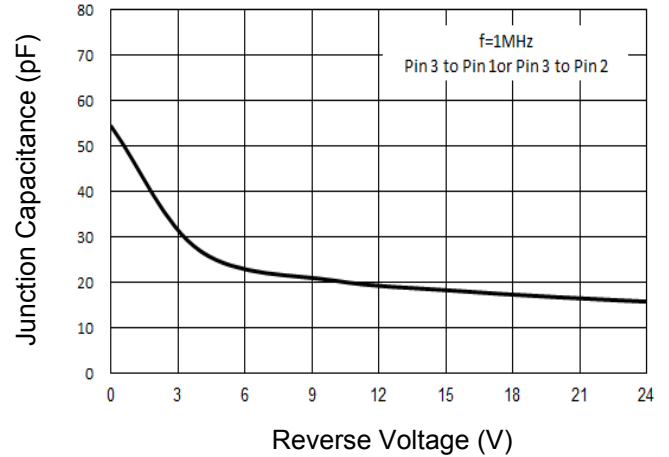
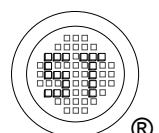
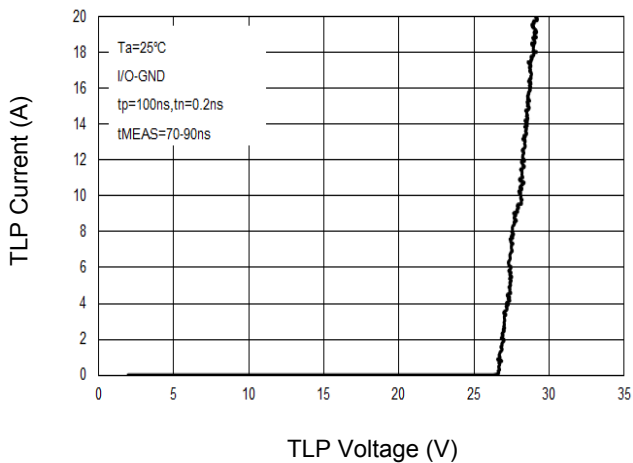


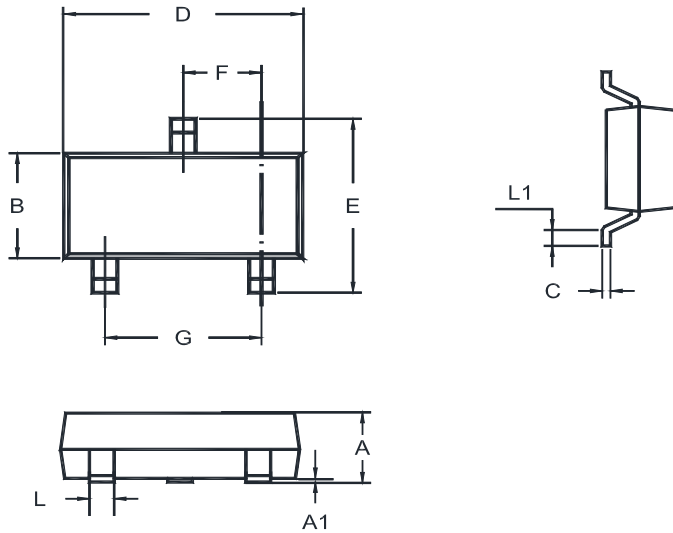
Fig 5 TLP Curve



# ESDB1105CC

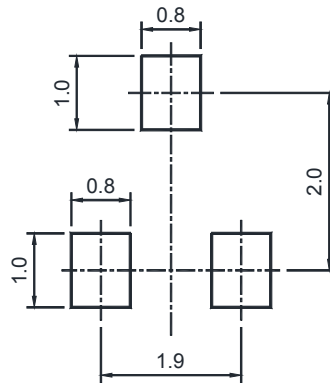
## Package Outline (Dimensions in mm)

SOT-23



| Unit | A    | A1    | B    | C    | D    | E   | F    | G    | L    | L1  |
|------|------|-------|------|------|------|-----|------|------|------|-----|
| mm   | 1.20 | 0.100 | 1.40 | 0.19 | 3.04 | 2.6 | 1.02 | 2.04 | 0.51 | 0.2 |
|      | 0.89 | 0.013 | 1.20 | 0.08 | 2.80 | 2.2 | 0.89 | 1.78 | 0.37 | MIN |

## Recommended Soldering Footprint



## Packing information

| Package | Tape Width (mm) | Pitch   |               | Reel Size |      | Per Reel Packing Quantity |
|---------|-----------------|---------|---------------|-----------|------|---------------------------|
|         |                 | mm      | inch          | mm        | inch |                           |
| SOT-23  | 8               | 4 ± 0.1 | 0.157 ± 0.004 | 178       | 7    | 3,000                     |

## Marking information

"GX" = Part No.  
 "YM" = Date Code Marking  
 "Y" = Year  
 "M" = Month  
 Font type: Arial

