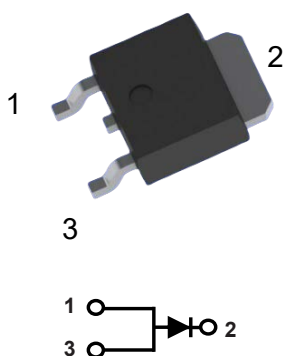


## Superfast Recovery Rectifier

TO-252  
MUR1080D-S



### Features

- Low forward voltage drop
- Low leakage current
- High current capability
- Super fast switching speed
- High forward surge capability
- High reliability

### Mechanical Data

- Epoxy: UL 94V-O rate flame retardant
- Lead: lead solderable per MIL-STD-202, method 208 guaranteed
- Mounting position: Any

| Parameter                                                                                         | Symbols          | MUR1080D-S |      | Units            |
|---------------------------------------------------------------------------------------------------|------------------|------------|------|------------------|
| Maximum Repetitive Peak Reverse Voltage                                                           | VRRM             | 800        |      | V                |
| Maximum RMS voltage                                                                               | VRMS             | 560        |      | V                |
| Maximum DC Blocking Voltage                                                                       | VDC              | 800        |      | V                |
| Maximum Average Forward Rectified Current                                                         | I(AV)            | 10.0       |      | A                |
| Reverse Recovery Time.<br>IF=0.5A, IR=1A, IRR=0.25A                                               | Trr              | 50         |      | ns               |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | IFSM             | 150        |      | A                |
| I <sup>2</sup> t rating for fusing ( 1ms< t < 10ms)                                               | I <sup>2</sup> t | 112.5      |      | A <sup>2</sup> S |
| Instantaneous Forward Voltage<br>per Diode@TA=25 °C                                               | VF               | Typ        | Max  | V                |
|                                                                                                   |                  | IF=2A      | --   |                  |
|                                                                                                   |                  | IF=10A     | 1.70 |                  |
| Maximum DC Reverse Current @TA=25 °C<br>at Rated DC Blocking Voltage @TA=125 °C                   | IR               | 5<br>250   |      | μA               |
| Operating and Storage Temperature Range                                                           | Tj, Tstg         | -55 ~ +150 |      | °C               |
| Typical thermal resistance (Note 2)                                                               | RthJC            | 4.0        |      | °C/W             |

Note: 1. Measured at 1MHz and applied reverse voltage of 4 VDC.

2. Thermal resistance junction to case, lead and ambient in accordance with JESD-51.

Unit mounted on glass-epoxy substrate with 1oz/ft<sup>2</sup> 20x20 mm copper pad per pin with heatsink

## RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

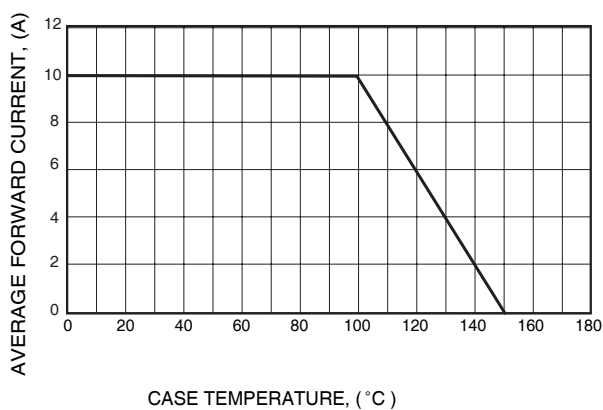


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

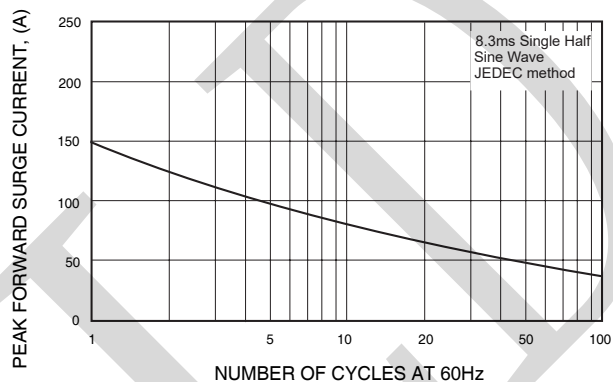


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

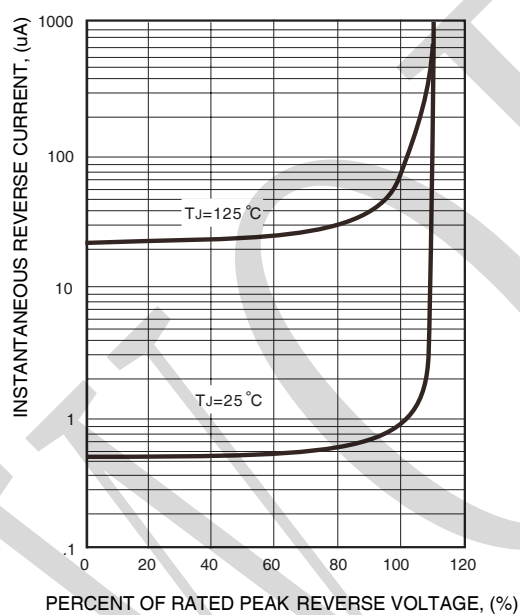
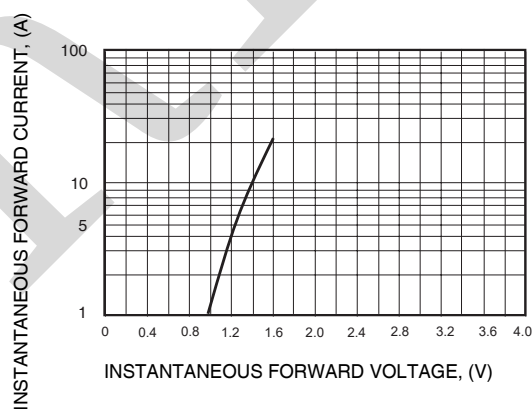
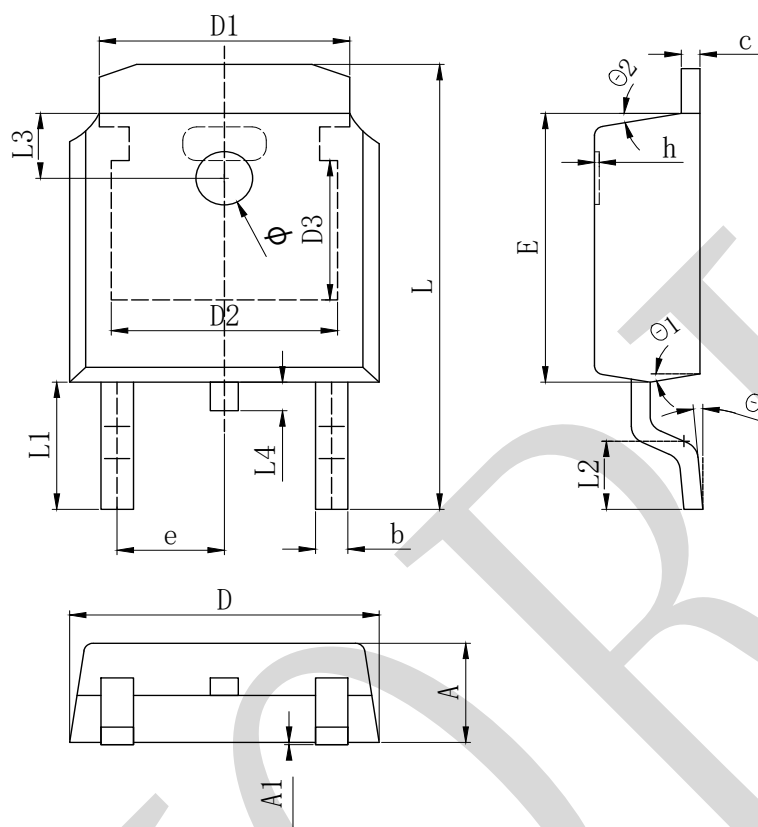


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



## PACKAGE OUTLINE DIMENSIONS

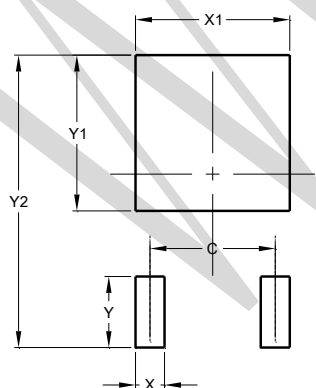
### TO-252 Package Information



| SYMBOL | MILLIMETER |        |        |
|--------|------------|--------|--------|
|        | MIN        | Typ.   | MAX    |
| A      | 2.200      | 2.300  | 2.400  |
| A1     | 0.000      |        | 0.127  |
| b      | 0.640      | 0.690  | 0.740  |
| c      | 0.460      | 0.520  | 0.580  |
| D      | 6.500      | 6.600  | 6.700  |
| D1     | 5.334 REF  |        |        |
| D2     | 4.826 REF  |        |        |
| D3     | 3.166 REF  |        |        |
| E      | 6.000      | 6.100  | 6.200  |
| e      | 2.286 TYP  |        |        |
| h      | 0.000      | 0.100  | 0.200  |
| L      | 9.900      | 10.100 | 10.300 |
| L1     | 2.888 REF  |        |        |
| L2     | 1.400      | 1.550  | 1.700  |
| L3     | 1.600 REF  |        |        |
| L4     | 0.600      | 0.800  | 1.000  |
| Φ      | 1.100      | 1.200  | 1.300  |
| θ      | 0°         |        | 8°     |
| θ 1    | 9° TYP     |        |        |
| θ 2    | 9° TYP     |        |        |

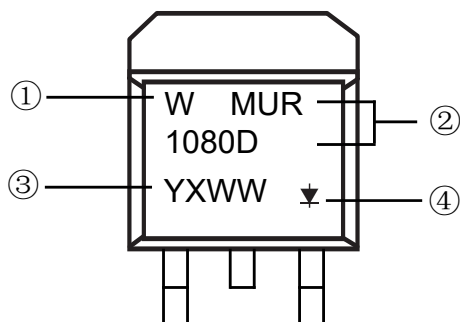
### Suggested Pad Layout

#### TO252 (DPAK)



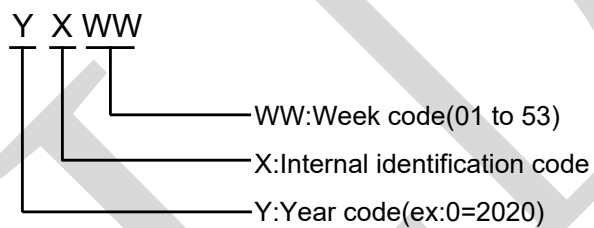
| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 4.572         |
| X          | 1.060         |
| X1         | 5.632         |
| Y          | 2.600         |
| Y1         | 5.700         |
| Y2         | 10.700        |

## Marking Information



- ①W : Company's trademark
- ②Product model : MUR1080D

### ③PDC information:



- ④  Single wafer