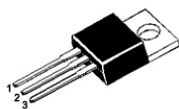


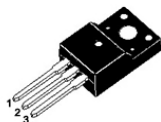


# MUR3040CT/FCT/DC

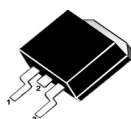
## ULTRAFAST RECOVERY RECTIFIERS



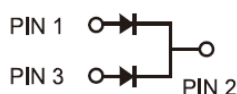
TO-220AB/CT



TO-220F/FCT



TO-263/DC



### FEATURES

- High speed switching capability
- High current capability
- High forward surge capability
- Low power losses, High efficiency
- High reliability
- For use in low voltage, high frequency inverters



### APPLICATIONS

Fast recovery diode, mainly used for rectification, used in high-power equipment, The express and ultrafast recovery diodes are suitable for high frequency and ultra high frequency circuits, respectively

### Primary Characteristic

|               |       |
|---------------|-------|
| $I_O$         | 2*15A |
| $V_{RRM}$     | 400V  |
| $I_{FSM}$     | 320A  |
| $V_F$         | 0.91V |
| $T_{jmax}$    | 150°C |
| Assembly code | XX    |

### MECHANICAL DATA

- **Case:** Molded plastic
- **Polarity:** As marked
- **Mounting Position:** Any
- **Molded Plastic:** UL Flammability Classification Rating 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Solder bath temperature 275°C maximum, 10s per JESD 22-B106

### Maximum Ratings (Per Leg) at $T_a=25^\circ\text{C}$ unless otherwise specified

| Characteristics                                          | Symbol          | Value       | Unit |
|----------------------------------------------------------|-----------------|-------------|------|
| Maximum Repetitive Peak Reverse Voltage                  | $V_{RRM}$       | 400         | V    |
| Working Peak Reverse Voltage                             | $V_{RWM}$       | 400         | V    |
| Maximum DC Blocking Voltage                              | $V_{DC}$        | 400         | V    |
| Maximum Average Forward Rectified Current                | $I_O$           | 15          | A    |
|                                                          |                 | 30          |      |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave | $I_{FSM}$       | 320         | A    |
| Operating Temperature Range                              | $T_J$           | 150         | °C   |
| Storage Temperature Range                                | $T_{STG}$       | -40 to +150 | °C   |
| Typical Thermal Resistance (Note1)                       | $R_{\theta JC}$ | 2           | °C/W |
| TO-220AB, TO-263                                         |                 | 4           |      |
| TO-220F                                                  |                 |             |      |

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

### Electrical Characteristics (Per Leg) unless otherwise specified

| Characteristics                                                                                   |          | Symbol          | Value |       | Unit |
|---------------------------------------------------------------------------------------------------|----------|-----------------|-------|-------|------|
| Forward Voltage Drop(Note2)                                                                       |          | V <sub>F</sub>  | Typ.  | Max.  | V    |
| at I <sub>F</sub> =3A                                                                             | TA=25°C  |                 | 0.84  | -     |      |
|                                                                                                   | TA=125°C |                 | 0.68  | -     |      |
| at I <sub>F</sub> =5A                                                                             | TA=25°C  |                 | 0.90  | -     |      |
|                                                                                                   | TA=125°C |                 | 0.74  | -     |      |
| at I <sub>F</sub> =15A                                                                            | TA=25°C  |                 | 1.06  | 1.39  |      |
|                                                                                                   | TA=125°C |                 | 0.90  | -     |      |
| Maximum Reverse Current at V <sub>R</sub> =400V                                                   | TA=25°C  |                 | 0.10  | 1.00  |      |
|                                                                                                   | TA=125°C | 10.00           | -     | μA    |      |
| Maximum Reverse Recovery Time at I <sub>F</sub> =0.5A, I <sub>R</sub> =1A, I <sub>RR</sub> =0.25A |          | T <sub>rr</sub> | -     | 35.00 | ns   |

Note2: Pulse test: 300  $\mu$ s pulse width, 1 % duty cycle





# MUR3040CT/FCT/DC

## ULTRAFAST RECOVERY RECTIFIERS

### RATINGS AND CHARACTERISTIC CURVES

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

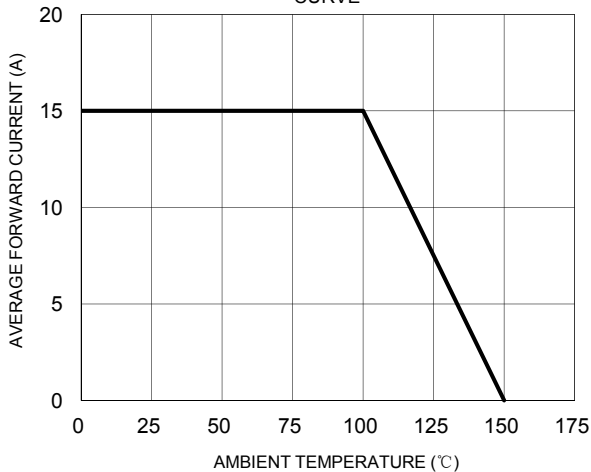


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

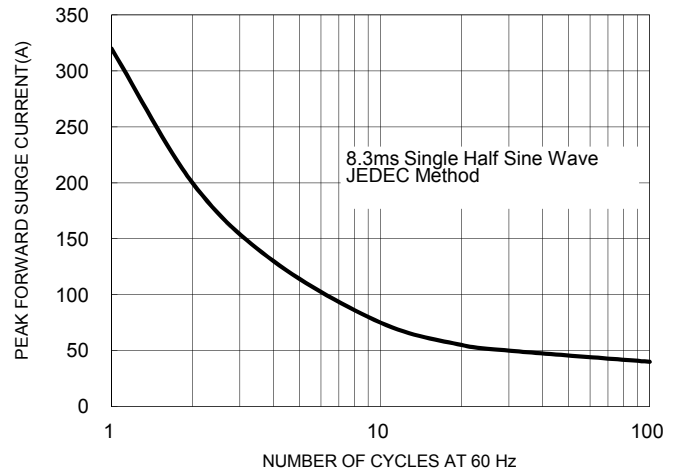


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

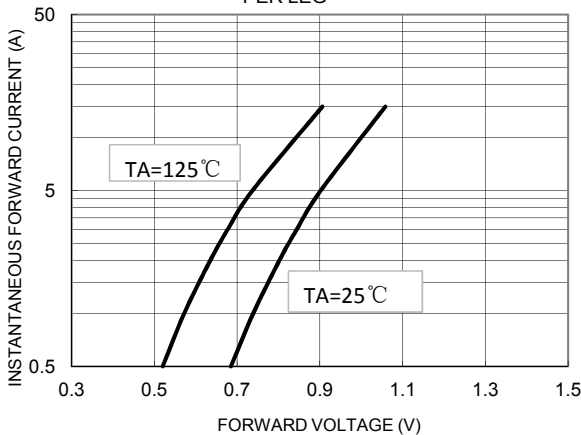
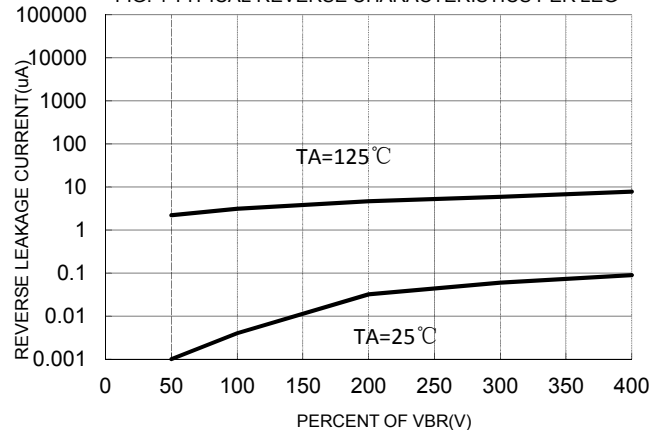
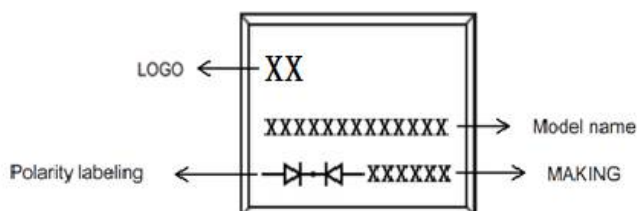


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



### Marking on the body



#### MAKING:

X X X X X X

- Assembly code ( e.g : AB,CD,..... )
- Material -Code  
(H:No halogen A:ordinary)
- Week - code (WW:01~52)
- Year - code  
(Y: Last digit of year & A:2012,B:2013. . . )

### Ordering information

| Part Number | Package  | Unit Weight   | Base Quantity  | Delivery mode              |
|-------------|----------|---------------|----------------|----------------------------|
| MUR3040CT   | TO-220AB | 0.07oz(1.96g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| MUR3040FCT  | TO-220F  | 0.06oz(1.74g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| MUR3040DC   | TO-263   | 0.04oz(1.16g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| MUR3040DC-R | TO-263   | 0.04oz(1.16g) | 800 pcs / reel | 800pcs/box 4000pcs/carton  |

Note: For Halogen Free molding compound, add "H" suffix to part number above.



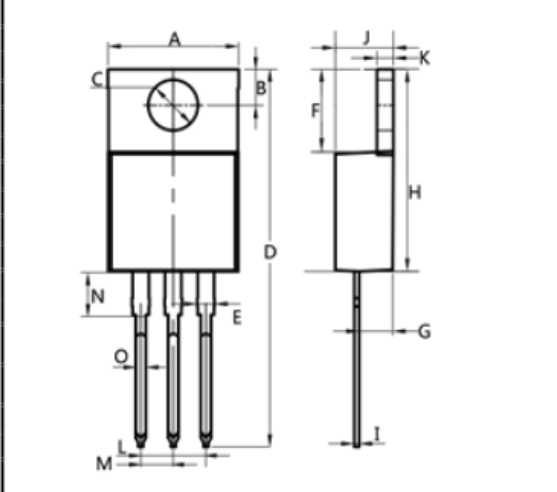


# MUR3040CT/FCT/DC

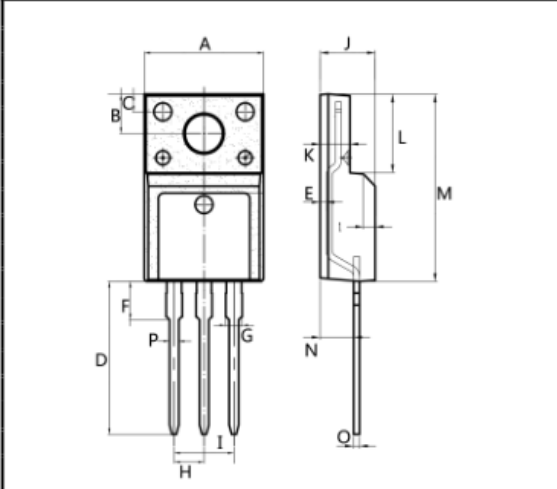
## ULTRAFAST RECOVERY RECTIFIERS

Package Outline Dimensions millimeters

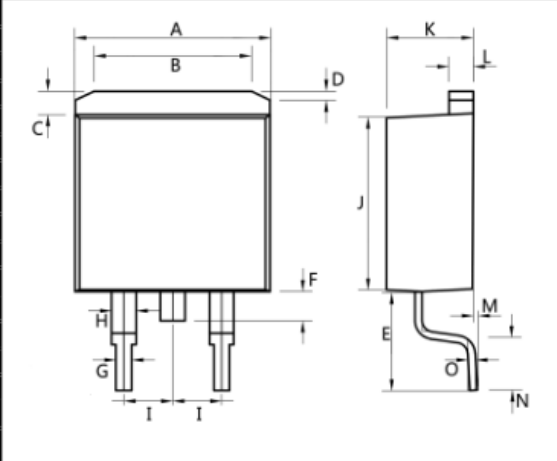
TO-220AB

|                                                                                   |      |          |       |
|-----------------------------------------------------------------------------------|------|----------|-------|
|  | Dim. | Min.     | Max.  |
|                                                                                   | A    | 10.15    | 10.35 |
|                                                                                   | B    | 2.65     | 2.95  |
|                                                                                   | C    | 3.70     | 3.90  |
|                                                                                   | D    | 28.5     | 29.5  |
|                                                                                   | E    | 1.30     | 1.45  |
|                                                                                   | F    | 6.35     | 6.55  |
|                                                                                   | G    | 2.9      | 3.3   |
|                                                                                   | H    | 15.0     | 16.0  |
|                                                                                   | I    | 0.38     | 0.42  |
|                                                                                   | J    | 4.45     | 4.55  |
|                                                                                   | K    | 1.25     | 1.35  |
|                                                                                   | L    | Typ 5.08 |       |
|                                                                                   | M    | Typ 2.54 |       |
|                                                                                   | N    | 3.1      | 3.3   |
|                                                                                   | O    | 0.76     | 0.84  |
| All Dimensions in millimeter                                                      |      |          |       |

TO-220F

|                                                                                     |      |          |       |
|-------------------------------------------------------------------------------------|------|----------|-------|
|  | Dim. | Min.     | Max.  |
|                                                                                     | A    | 9.95     | 10.25 |
|                                                                                     | B    | 2.95     | 3.25  |
|                                                                                     | C    | 1.25     | 1.45  |
|                                                                                     | D    | 12.95    | 13.25 |
|                                                                                     | E    | 0.50     | 0.65  |
|                                                                                     | F    | 3.1      | 3.3   |
|                                                                                     | G    | 1.30     | 1.45  |
|                                                                                     | H    | Typ 2.54 |       |
|                                                                                     | I    | Typ 5.08 |       |
|                                                                                     | J    | 4.60     | 4.75  |
|                                                                                     | K    | 2.50     | 2.65  |
|                                                                                     | L    | 6.35     | 6.55  |
|                                                                                     | M    | 15.4     | 16.0  |
|                                                                                     | N    | 2.75     | 3.05  |
|                                                                                     | O    | 0.48     | 0.52  |
|                                                                                     | P    | 0.76     | 0.84  |
| All Dimensions in millimeter                                                        |      |          |       |

TO-263

|                                                                                     |      |          |      |
|-------------------------------------------------------------------------------------|------|----------|------|
|  | Dim. | Min.     | Max. |
|                                                                                     | A    | 10.1     | 10.2 |
|                                                                                     | B    | 7.4      | 7.6  |
|                                                                                     | C    | 1.3      | 1.5  |
|                                                                                     | D    | 0.55     | 0.75 |
|                                                                                     | E    | 5.0      | 6.0  |
|                                                                                     | F    | 1.4      | 1.6  |
|                                                                                     | G    | 0.78     | 0.86 |
|                                                                                     | H    | 1.2      | 1.3  |
|                                                                                     | I    | Typ 2.54 |      |
|                                                                                     | J    | 8.4      | 8.6  |
|                                                                                     | K    | 4.45     | 4.55 |
|                                                                                     | L    | 1.25     | 1.35 |
|                                                                                     | M    | 0.02     | 0.1  |
|                                                                                     | N    | 2.4      | 2.8  |
|                                                                                     | O    | 0.36     | 0.40 |
| All Dimensions in millimeter                                                        |      |          |      |

