



Ultra-Fast Recovery Diodes

Reverse Voltage- 400V

Forward current-20A

Features

Ultra-Fast Recoveryt chip

Fast reverse recovery time

Ideal for surface mounted applications

Low power loss, high efficiency

Plastic Case Material has UL Flammability

Mechanical Data

Package: TO-220F

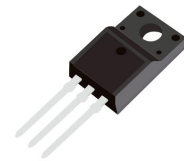
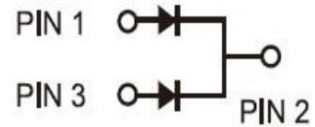
Terminals: Tin Plated leads, solderable per

Mil-STD-750 Method 2026

Polarity: As marked

Molding compound meets UL 94 V-0 flammability rating,

ROHS-compliant



TO-220F

Maximum Ratings (Ta=25°C Unless otherwise

| Type Number | SYMBOL | MURF2040CT | Umit |
|---|-------------|------------|------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 400 | V |
| Maximum RMS Voltage | V_{RMS} | 280 | V |
| Maximum DC Blocking Voltage | V_{DC} | 400 | V |
| Maximum Average Forward Rectified Current at TL = 100 °C | $I_{O(AV)}$ | 20.0 | A |
| Peak Forward Surge Current 8.3ms Single half-sine-wave superimposed on rated load(JEDEC Method) on rated | IFSM | 120.0 | A |
| Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25°C | | 240.0 | A |
| Current squared time @1ms≤t8.3≤ms Tj=25°C, Rating of per diode | I^2t | 59.76 | A ² S |
| Maximum Forward Voltage at10.0A DC | V_{FM} | 1.3 | V |
| Maximum Reverse Current TA = 25°C | IR | 5 | uA |
| at Rated DC Blocking Voltage TA = 100°C | | 200 | |
| Reverse Recovery Time | Trr | 35 | ns |
| Typical Junction Capacitance | CJ | 50 | pF |
| Typical Thermal Resistance Between junction and ambien Between Junction and Case | RQJa | 50 | °C/W |
| | RQJc | 4.0 | |
| Operating Junction Temperature Range | TJ | —55to+150 | °C |
| Storage Temperature Range | TSTG | —55to+150 | °C |



FIG. 1 MAXIMUM AVERAGE FORWARD CURRENT DERATING

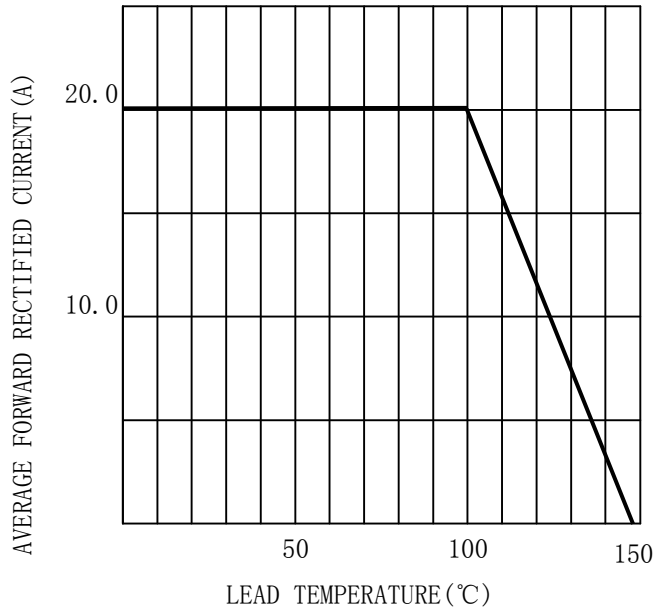


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

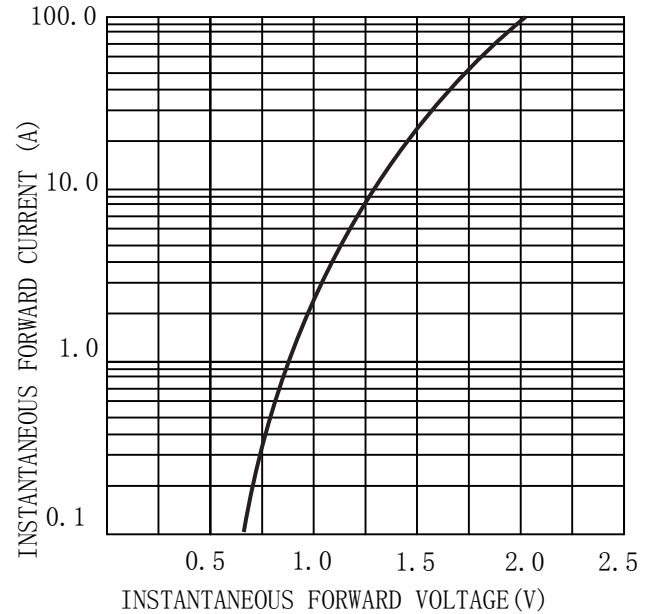


FIG. 3 MAXIMUM NON-REPEITIVE SURGE CURRENT

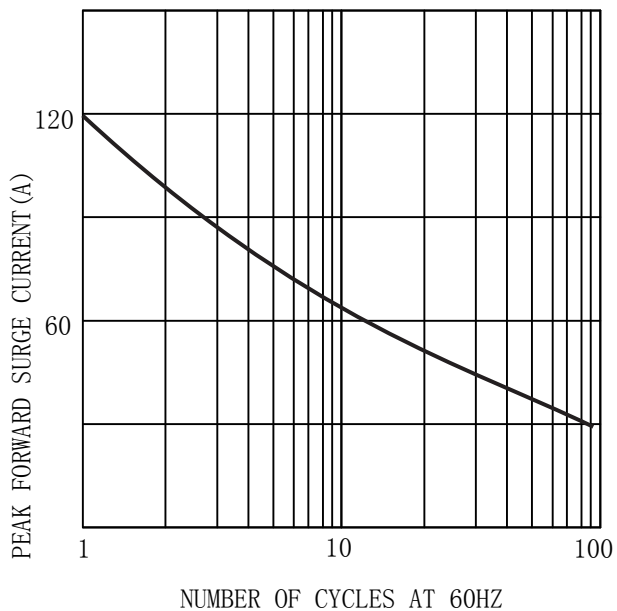
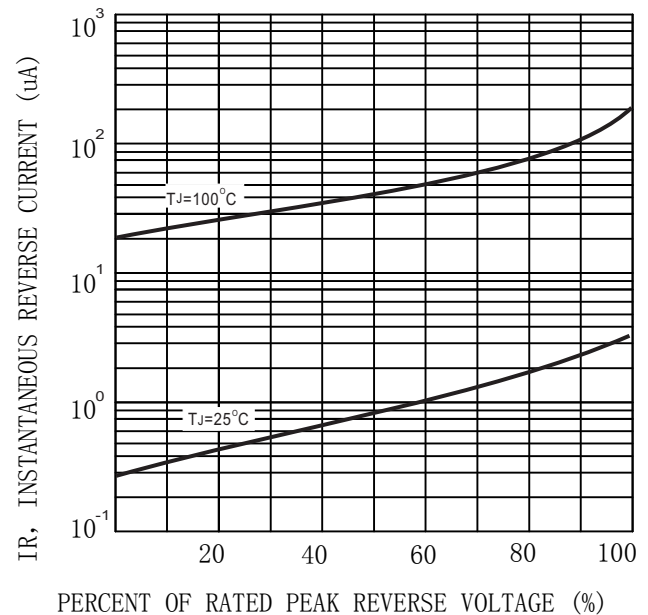


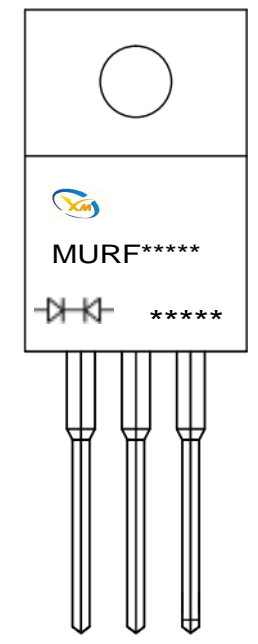
FIG. 4 TYPICAL REVERSE CHARACTERISTICS (per element)







MARKING INFORMATION

TO-220F/CT



 = Polar line

 = Logo

***** = Date Code Marking

MURF***** = Marking Code

Date Code Marking

| | |
|-----------------|---------------------|
| <u>A</u> | <u>001</u> |
| Year/month code | Order serial number |

Example: January 2023 order number is 001, period A001

January 2025 Order number is 001, period \dot{A} 001

| Period code year distinction | | | | | |
|------------------------------|-----------|-----------|-----------|-----------|-----------------------------------|
| 2023/2024 | 2025/2026 | 2027/2028 | 2029/2030 | 2031/2032 | remark |
| no | first | second | tertius | fourth | Dot above corresponding character |

| eriod code month code mapping table | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|
| month | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Single year (Example 2023) | A | B | C | D | E | F | G | H | I | J | K | L |
| Biennial (example 2024) | M | N | O | P | Q | R | S | T | U | V | W | X |



Package Outline Dimensions millimeters

| T0-220F/FCT | | | | | |
|-------------|--------|------|-------|-------|------|
| DIM | INCHES | | MM | | NOTE |
| | min | max | min | max | |
| A | — | 0.41 | — | 10.30 | |
| B | 0.61 | 0.64 | 15.60 | 16.20 | |
| C | 0.18 | 0.19 | 4.50 | 4.90 | |
| D | 0.26 | 0.28 | 6.60 | 7.00 | |
| E | 0.50 | 0.53 | 12.80 | 13.40 | |
| a | 0.10 | 0.10 | 2.45 | 2.65 | |
| b | — | 0.16 | — | 4.10 | |
| c | 0.03 | 0.04 | 0.72 | 0.92 | |
| d | 0.02 | 0.02 | 0.40 | 0.60 | |
| e | — | 0.15 | — | 3.80 | Ø |
| f | 0.09 | 0.11 | 2.40 | 2.80 | |

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