

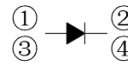
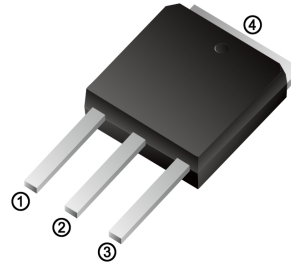


SF1001XS THRU SF1006XS Superfast Recovery Rectifiers

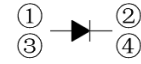
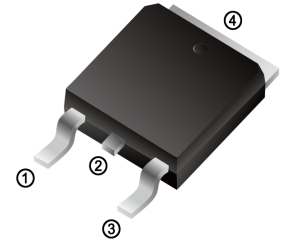
FEATURES

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Mounting position: any

TO-251(I-PAK)



TO-252(D-PAK)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| CHARACTERISTICS | TO-251 | SF1001VS | SF1002VS | SF1003VS | SF1004VS | SF1005VS | SF1006VS | UNIT |
|---|--------------------------------|-------------|----------|----------|----------|----------|----------|------|
| | TO-252 | SF1001DS | SF1002DS | SF1003DS | SF1004DS | SF1005DS | SF1006DS | |
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 100 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum RMS Voltage | V _{RMS} | 70 | 140 | 210 | 280 | 350 | 420 | V |
| Maximum DC Blocking Voltage | V _{DC} | 100 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum Average Forward Rectified Current | I <sub(av)< sub=""></sub(av)<> | 10.0 | | | | | | A |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method) | I _{FSM} | 300 | | | | | | A |
| Maximum Forward Voltage at 10.0A DC | V _F | 1.0 | | 1.30 | | 1.70 | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I _R | 1.0 300 | | | | | | uA |
| Typical Junction Capacitance Per Element (Note1) | C _J | 45 | | | | | | pF |
| Typical Thermal Resistance (Note2) | R _{θJA} | 15 | | | | | | °C/W |
| Maximum Reverse Recovery Time(Note3) | T _{rr} | 35 | | | | | | ns |
| Operating Temperature Range | T _J | -55 to +150 | | | | | | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | | | | | | °C |

NOTES: 1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2.Mounted on 10cm x 10cm x 1mm copper pad area
3.Reverse Recovery Test Conditions:IF=0.5A,IR=1A,Irr=0.25A



SF1001XS THRU SF1006XS Superfast Recovery Rectifiers

Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 - FORWARD CURRENT DERATING CURVE

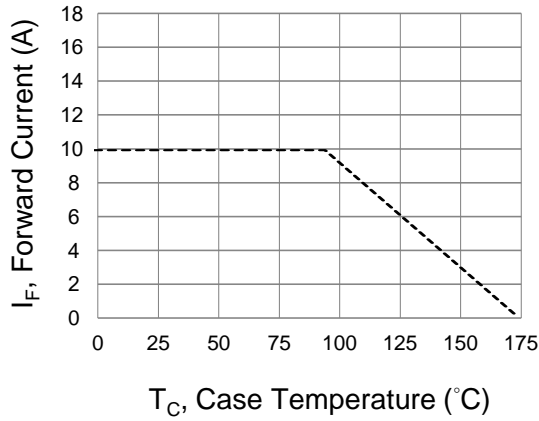


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

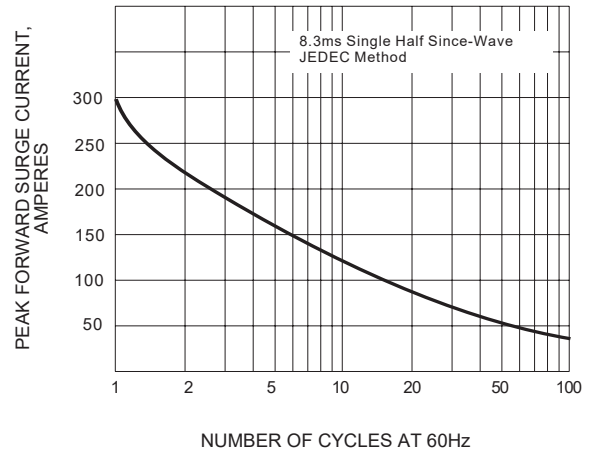


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

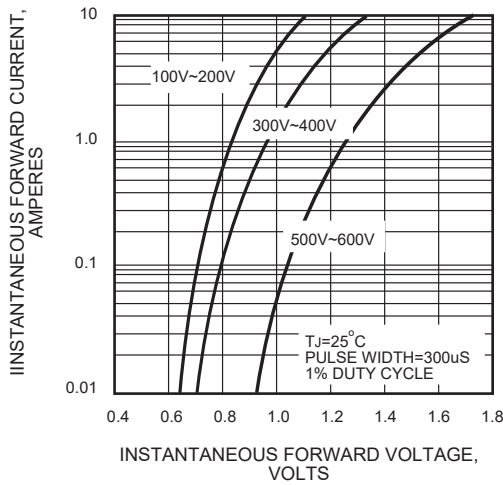


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

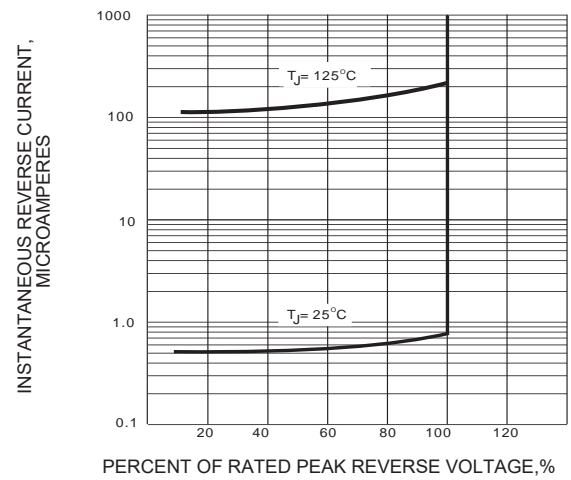
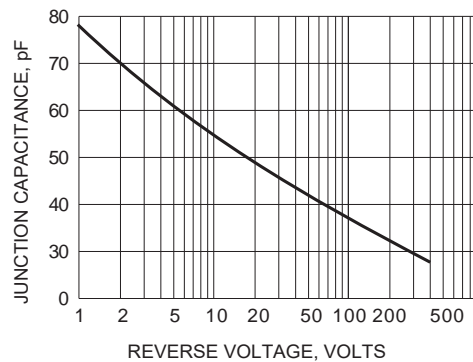


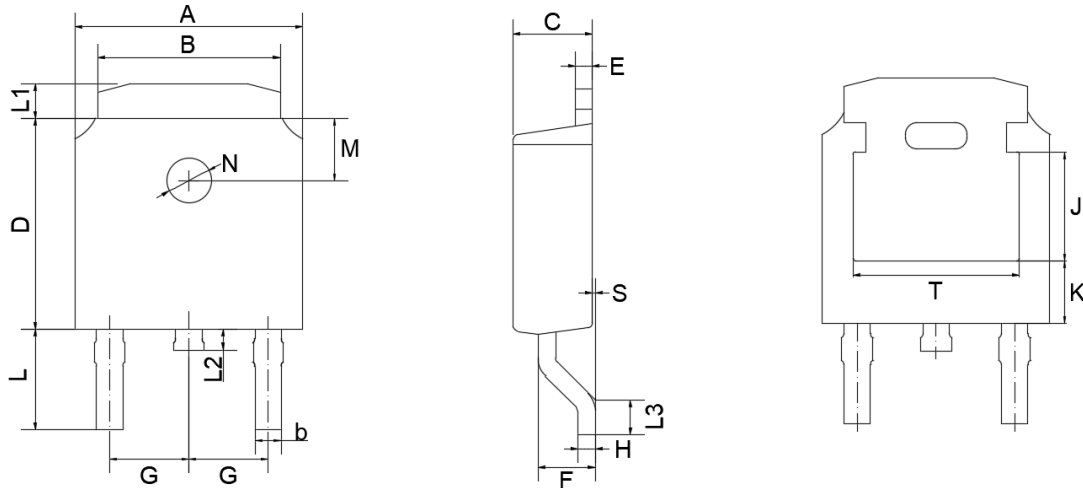
FIG.5 - TYPICAL JUNCTION CAPACITANCE





SF1001xS THRU SF1006xS Superfast Recovery Rectifiers

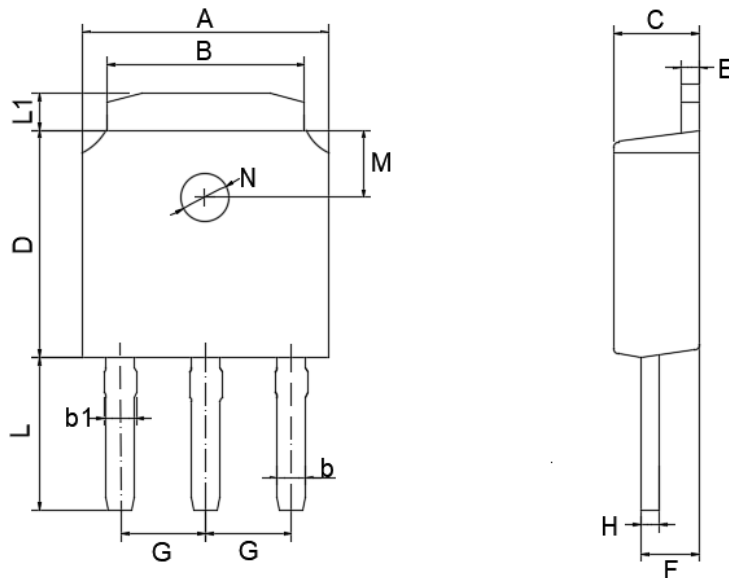
TO-252(D-PAK) Package Outline Dimensions



TO-252(D-PAK) mechanical data

| UNIT | A | B | b | C | D | E | F | G | H | L | L1 | L2 | L3 | M | N | J | K | T |
|------|-----|------|------|------|------|------|------|---------|------|------|------|------|------|---------|---------|------|------|------|
| mm | max | 6.70 | 5.50 | 0.80 | 2.50 | 6.30 | 1.80 | 2.29 | 0.55 | 3.10 | 1.20 | 0.80 | 1.60 | 1.8 | 1.3 | 3.16 | 1.80 | 4.83 |
| | min | 6.30 | 5.10 | 0.30 | 2.10 | 5.90 | 1.30 | TYPICAL | 0.45 | 2.70 | 0.80 | 0.40 | 1.40 | TYPICAL | TYPICAL | ref. | ref. | ref. |
| mil | max | 264 | 217 | 31 | 98 | 248 | 71 | 90 | 22 | 122 | 47 | 31 | 63 | 71 | 51 | 124 | 71 | 190 |
| | min | 248 | 201 | 12 | 83 | 232 | 51 | TYPICAL | 18 | 106 | 31 | 16 | 55 | TYPICAL | TYPICAL | ref. | ref. | ref. |

TO-251(I-PAK) Package Outline Dimensions



TO-251(I-PAK) mechanical data

| UNIT | A | B | b | b1 | C | D | E | F | G | H | L | L1 | M | N | |
|------|-----|------|------|------|------|------|------|------|------|---------|------|------|------|---------|---------|
| mm | max | 6.70 | 5.50 | 0.80 | 0.90 | 2.50 | 6.30 | 0.60 | 1.80 | 2.29 | 0.55 | 4.30 | 1.20 | 1.8 | 1.3 |
| | min | 6.30 | 5.10 | 0.30 | 0.76 | 2.10 | 5.90 | 0.40 | 1.30 | TYPICAL | 0.45 | 3.90 | 0.80 | TYPICAL | TYPICAL |
| mil | max | 264 | 217 | 31 | 35 | 98 | 248 | 24 | 71 | 90 | 22 | 169 | 47 | 71 | 51 |
| | min | 248 | 201 | 12 | 30 | 83 | 232 | 16 | 51 | TYPICAL | 18 | 154 | 31 | TYPICAL | TYPICAL |

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