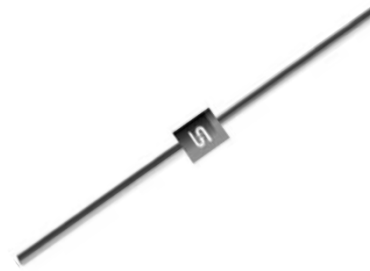


Super Fast Rectifiers

FEATURES

- High efficiency, low VF
- High current capability
- High reliability
- Low power loss
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



DO-204AL (DO-41)

MECHANICAL DATA

Case: DO-204AL (DO-41)

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

Weight: 0.33 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | | | | | | |
|--|--------------------|--------------|-------|-------|-------|-------|-------|-------|-------|------|
| PARAMETER | SYMBOL | SF 11 | SF 12 | SF 13 | SF 14 | SF 15 | SF 16 | SF 17 | SF 18 | UNIT |
| Maximum repetitive peak reverse voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | V |
| Maximum DC blocking voltage | V _{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum average forward rectified current | I _{F(AV)} | 1 | | | | | | | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 30 | | | | | | | | A |
| Maximum instantaneous forward voltage (Note 1) @ 1 A | V _F | 0.95 | | | 1.3 | | 1.7 | | | V |
| Maximum reverse current @ rated VR T _J =25 °C T _J =100 °C | I _R | 5 | | | | 100 | | | | μA |
| Maximum reverse recovery time (Note 2) | T _{rr} | 35 | | | | | | | | ns |
| Typical junction capacitance (Note 3) | C _j | 30 | | | | 15 | | | | pF |
| Typical thermal resistance | R _{θJA} | 70 | | | | | | | | °C/W |
| Operating junction temperature range | T _J | - 55 to +125 | | | | | | | | °C |
| Storage temperature range | T _{STG} | - 55 to +150 | | | | | | | | °C |

Note 1: Pulse Test with PW=300μs, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

ORDERING INFORMATION

| PART NO. | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING |
|------------------|--------------|---------------------|---------|----------------------------------|
| SF1x (Note 1) | A0 | Suffix "G" | DO-41 | 3,000 / Ammo box (52mm taping) |
| | R0 | | DO-41 | 5,000 / 13" Paper reel |
| | R1 | | DO-41 | 5,000 / 13" Paper reel (Reverse) |
| | B0 | | DO-41 | 1,000 / Bulk packing |

Note 1: "x" defines voltage from 50V (SF11) to 600V (SF18)

EXAMPLE

| PREFERRED P/N | PART NO. | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION |
|---------------|----------|--------------|---------------------|----------------|
| SF18 A0 | SF18 | A0 | | |
| SF18 A0G | SF18 | A0 | G | Green compound |

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

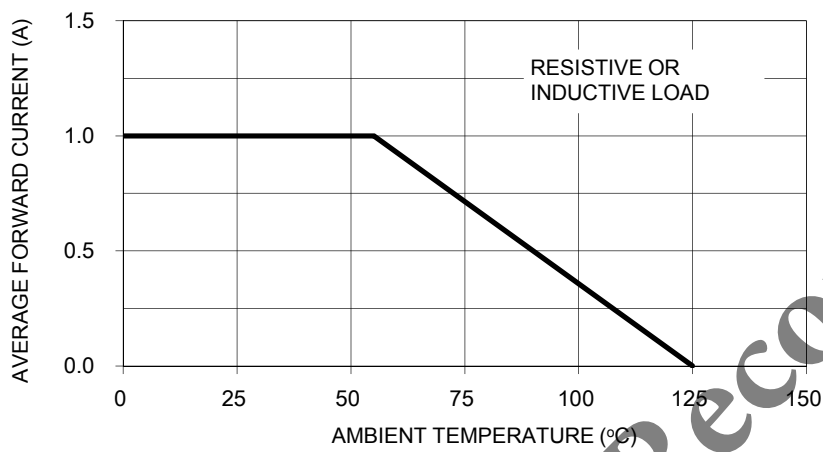


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

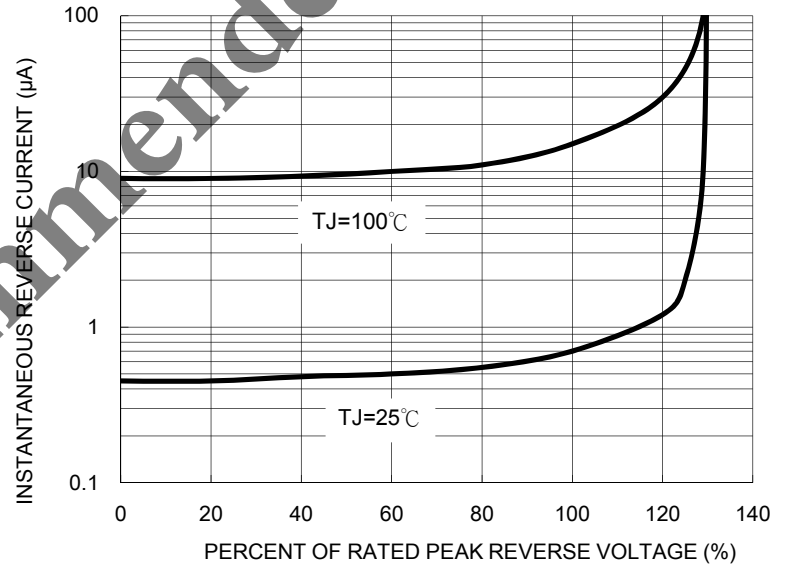


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

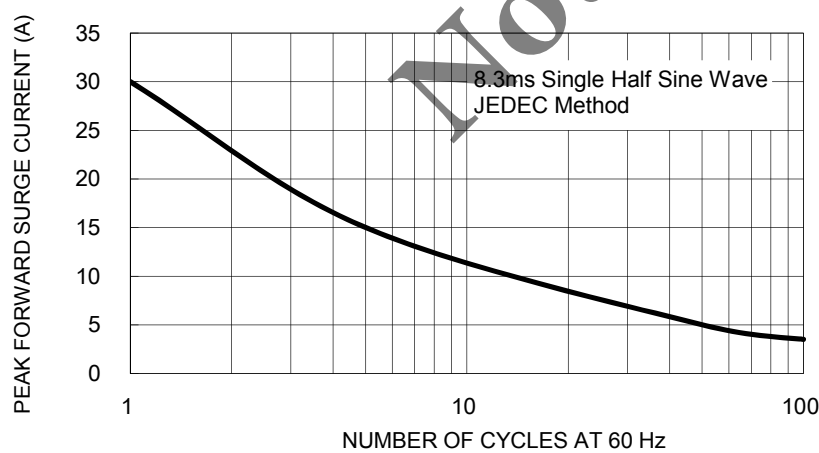


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

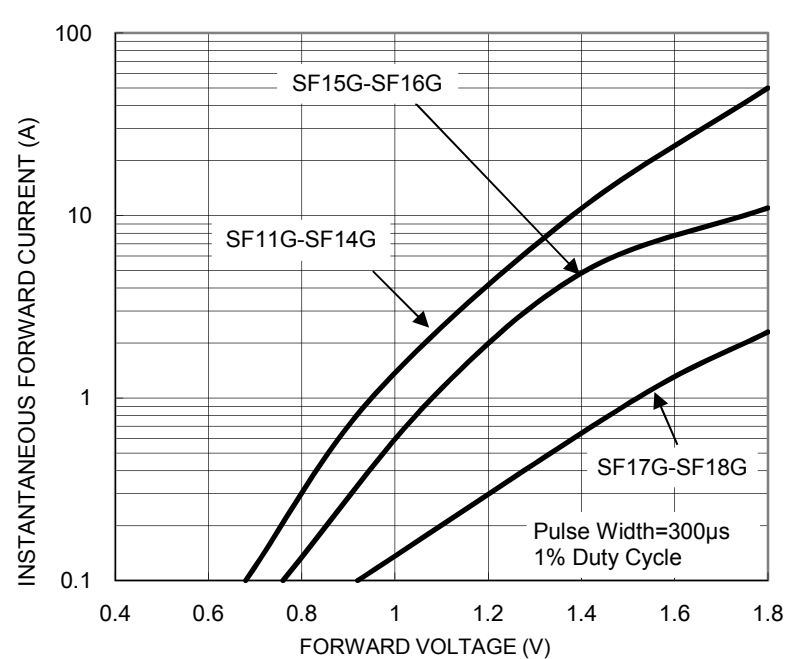


FIG. 5- TYPICAL JUNCTION CAPACITANCE

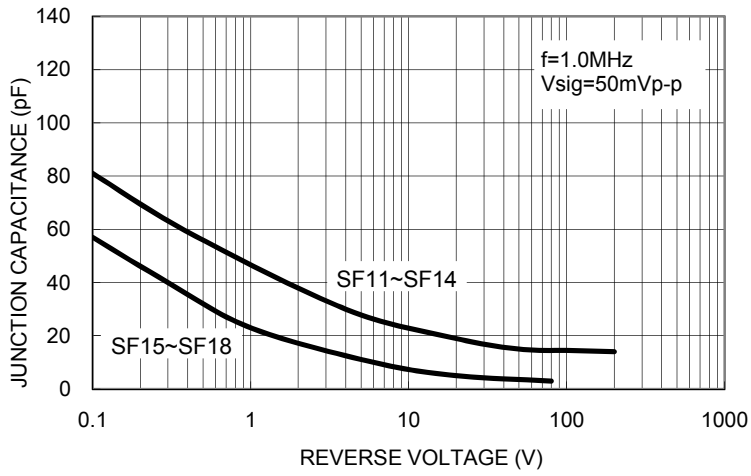
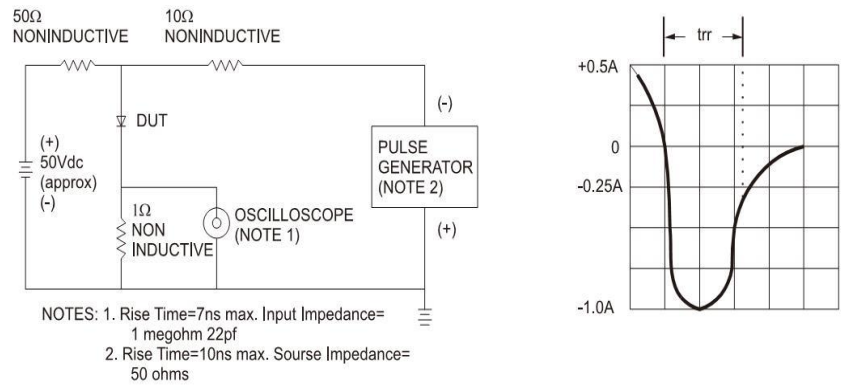
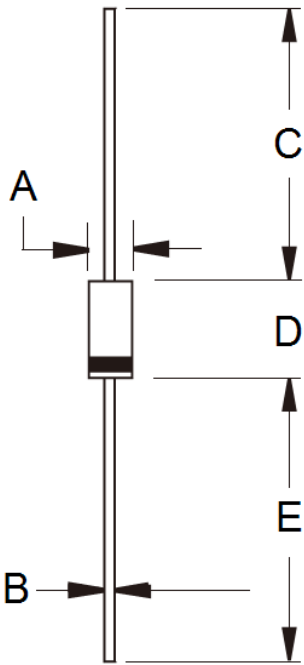


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 2.00 | 2.70 | 0.079 | 0.106 |
| B | 0.71 | 0.86 | 0.028 | 0.034 |
| C | 25.40 | - | 1.000 | - |
| D | 4.20 | 5.20 | 0.165 | 0.205 |
| E | 25.40 | - | 1.000 | - |

MARKING DIAGRAM



P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code

Not Recommended

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