



SILICON RECTIFIER DIODES

BY133

PRV : 50 - 1300 Volts

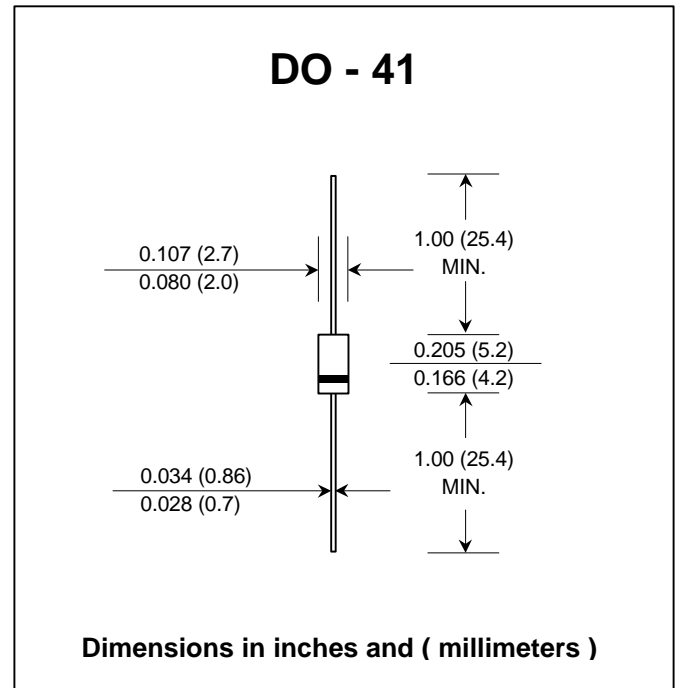
Io : 1.0 Ampere

FEATURES :

- * High current capability
- * High surge current capability
- * High reliability
- * Low reverse current
- * Low forward voltage drop
- * Pb / RoHS Free

MECHANICAL DATA :

- * Case : DO-41 Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.34 gram



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| RATING | SYMBOL | 1N4001 | 1N4002 | 1N4003 | 1N4004 | 1N4005 | 1N4006 | 1N4007 | BY133 | UNIT |
|--|--------------------|---------------|--------|--------|--------|--------|--------|--------|-------|------|
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1300 | V |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | 1000 | V |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1300 | V |
| Maximum Average Forward Current 0.375"(9.5mm) Lead Length Ta = 75 °C | I _{F(AV)} | 1.0 | | | | | | | | A |
| Maximum Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method) | I _{FSM} | 30 | | | | | | | | A |
| Maximum Forward Voltage at I _F = 1.0 Amp. | V _F | 1.1 | | | | | | | | V |
| Maximum DC Reverse Current Ta = 25 °C at rated DC Blocking Voltage Ta = 100 °C | I _R | 5.0 | | | | | | | | μA |
| | I _{R(H)} | 50 | | | | | | | | μA |
| Typical Reverse Recovery Time (I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A.) | T _{rr} | 2.0 | | | | | | | | μs |
| Typical Junction Capacitance (Note1) | C _J | 15 | | | | | | | | pF |
| Typical Thermal Resistance (Note2) | RθJA | 26 | | | | | | | | °C/W |
| Junction Temperature Range | T _J | - 65 to + 175 | | | | | | | | °C |
| Storage Temperature Range | T _{STG} | - 65 to + 175 | | | | | | | | °C |

Notes : (1) Measured at 1.0 MHz and applied reverse voltage of 4.0VDC
(2) Thermal resistance from Junction to Ambient at 0.375" (9.5mm) Lead Lengths, P.C. Board Mounted.



RATING AND CHARACTERISTIC CURVES (1N4001 - BY133)

FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

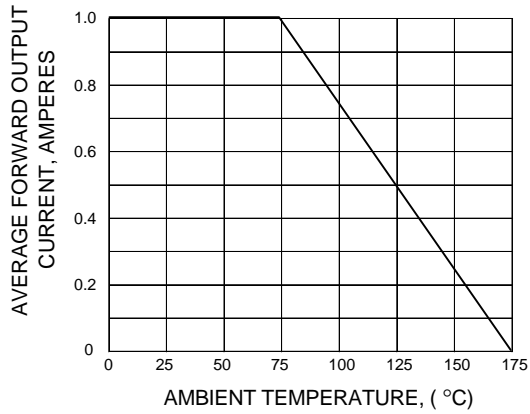


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

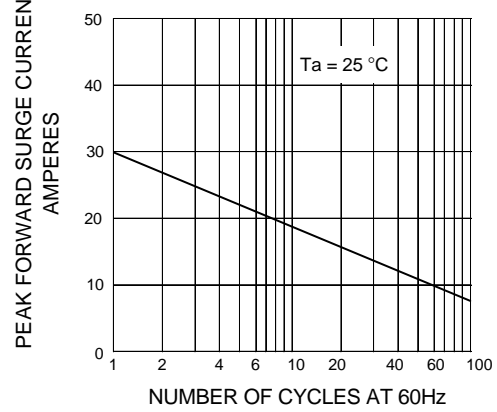


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

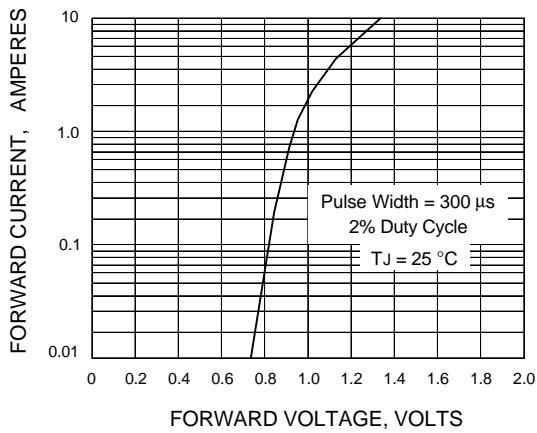


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

