

Fast Recovery Plastic Rectifiers

Reverse Voltage: 400 to 1000V

Forward Current: 1.0 Amp

Features

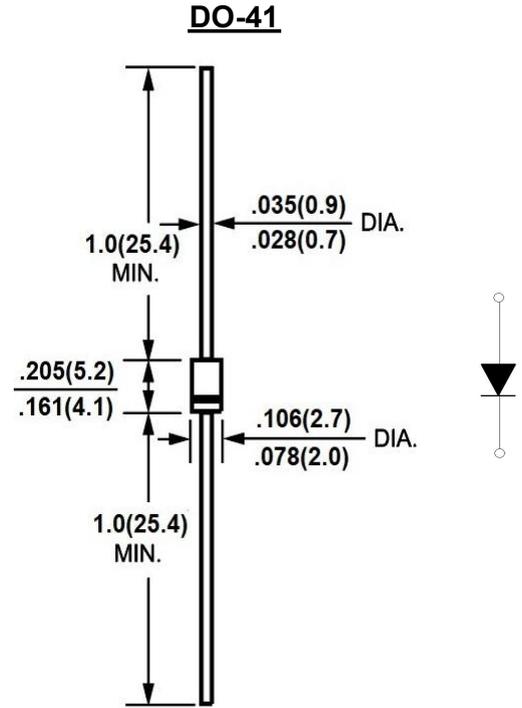
- Glass passivated chip junction
- High forward surge capability
- Fast reverse recovery time
- Low reverse leakage
- Low power loss
- High temperature soldering guaranteed
260°C/10 seconds at terminals.

Mechanical Data

- **Package:** DO-41, Molded plastic body
Molding compound meets UL 94 V-0 flammability rating
- **Terminals:** Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

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

Parameter&Test Conditions	SYM.	BA157	BA158	BA158D	BA159	Unit
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	280	480	560	700	V
Maximum DC Blocking Voltage	V _{DC}	400	600	800	1000	V
Average rectified output current @60Hz sine wave, Resistance load, T _a =75°C (FIG.1)	I _{O(AV)}	1.0				A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load	I _{FSM}	30				A
Maximum Thermal Resistance, Junction To Ambient (Note1)	R _{θJA}	70				°C/W
Operating junction and storage temperature range	T _j , T _{STG}	-55 to+150				°C

Electrical Characteristics (T_a=25°C Unless otherwise specified)

Parameter&Test Conditions	SYM.	BA157	BA158	BA158D	BA159	Unit
Maximum Instantaneous Forward Voltage IFM =1A	V _{FM}	1.3				V
Maximum DC reverse current at rated DC blocking voltage	I _R	TA = 25°C	5			µA
		TA = 125°C	100			
Maximum reverse recovery time (Note2)	T _{rr}	150	250	500		ns
Typical junction capacitance (Note3)	C _J	11				pF

Notes:

1. Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB mounted.
2. Reverse recovery time test condition: IF=0.5A IR=1.0A I_{rr}=0.25A .
3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
4. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

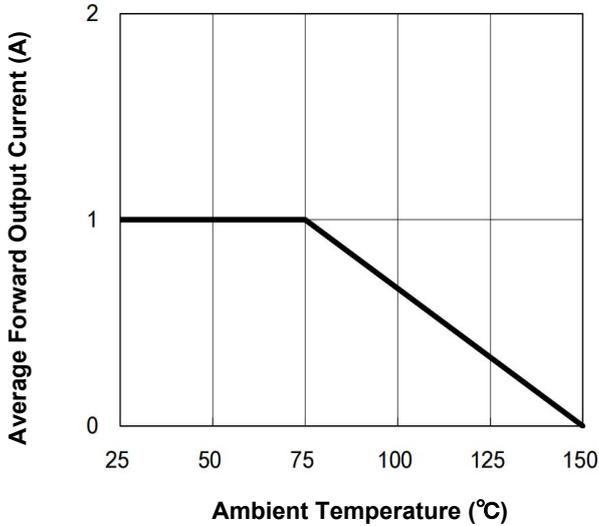


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

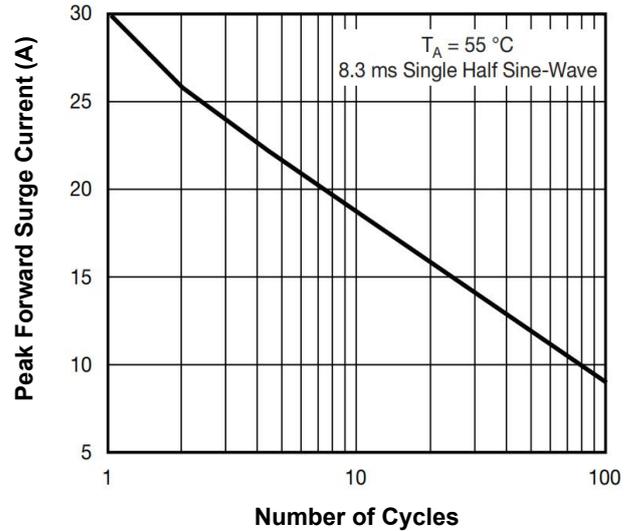


FIG. 3- TYPICAL FORWARD VOLTAGE

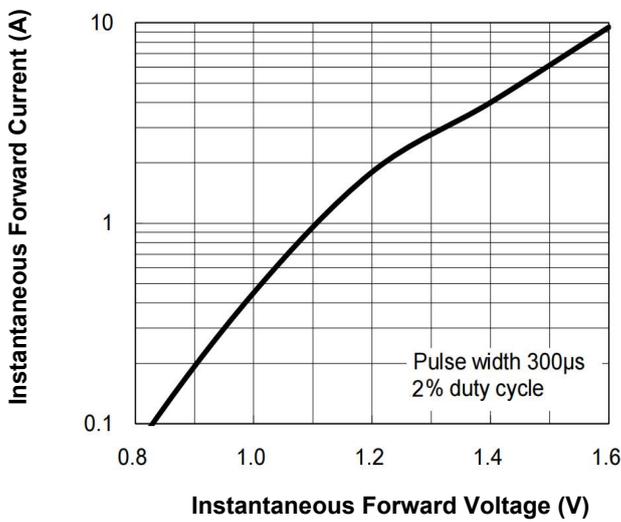


FIG. 4- TYPICAL REVERSE LEAKAGE

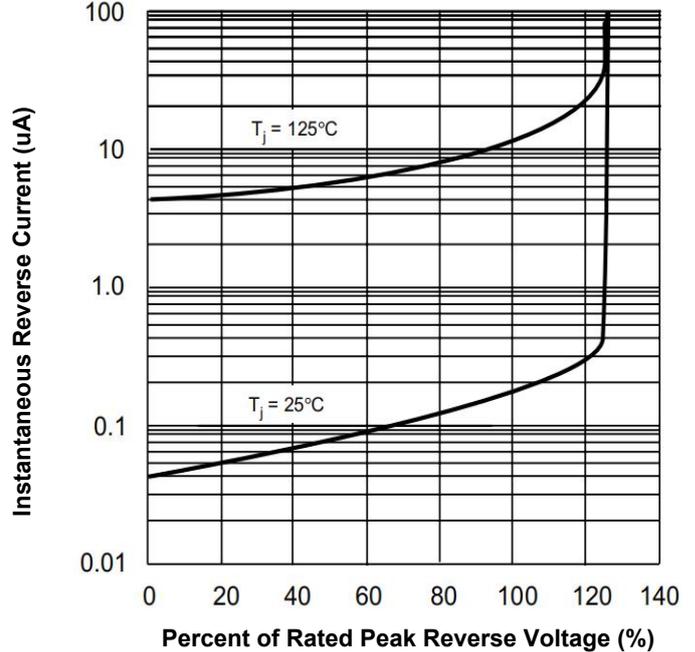
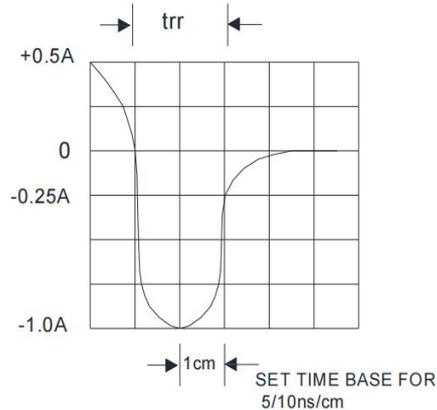
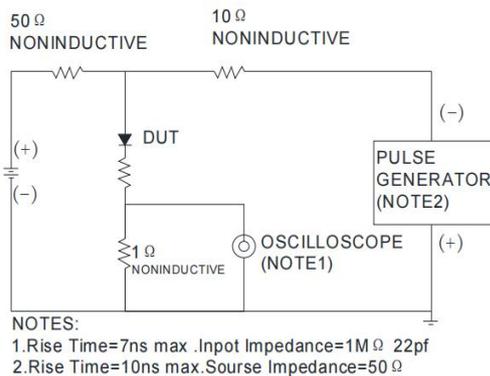


FIG. 5- Diagram of circuit and Testing wave form of reverse recovery



The curve above is for reference only.



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