

# 05NU42

# FAST RECOVERY RECTIFIER

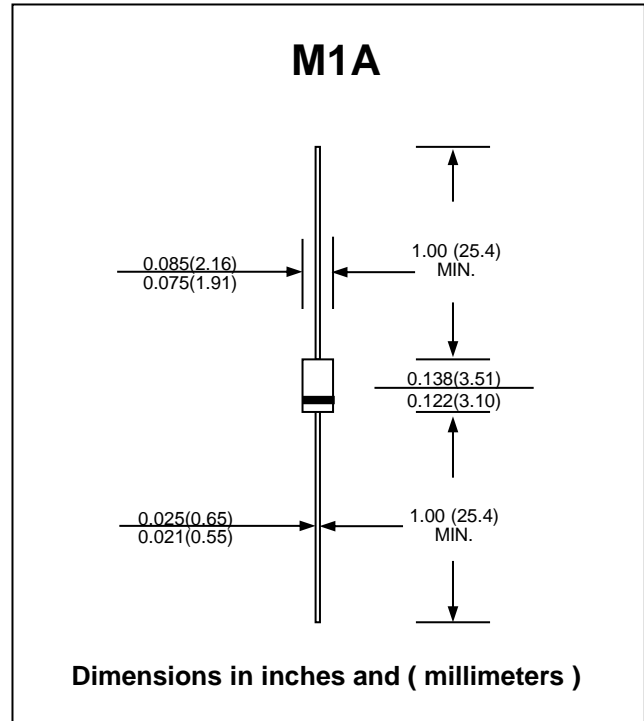
**PRV : 1000 Volts**  
**I<sub>o</sub> : 0.5 Amperes**

### FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency
- \* Pb / RoHS Free

### MECHANICAL DATA :

- \* Case : M1A 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 : 0.20 gram (approximately)



### 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	VALUE	UNIT
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	1000	V
Maximum Average Forward Current	I <sub>F(AV)</sub>	0.5	A
Maximum Peak One Cycle Surge Forward Current ( Non-Repetitive )	I <sub>FSM</sub>	10 ( 50Hz )	A
		11 ( 60Hz )	
Maximum Peak Forward Voltage at I <sub>F</sub> = 0.5 A	V <sub>F</sub>	3.0	V
Maximum Repetitive Peak Reverse Current at V <sub>RRM</sub>	I <sub>R</sub>	100	μA
Maximum Reverse Recovery Time ( Note 1 )	T <sub>rr</sub>	100	ns
Junction Temperature Range	T <sub>J</sub>	- 40 to + 150	°C
Storage Temperature Range	T <sub>STG</sub>	- 40 to + 150	°C

**Note:**

(1) Reverse Recovery Test Conditions : I<sub>F</sub> = 1 A, di/dt = -30 A/μs.

## RATING AND CHARACTERISTIC CURVES ( 05NU42 )

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

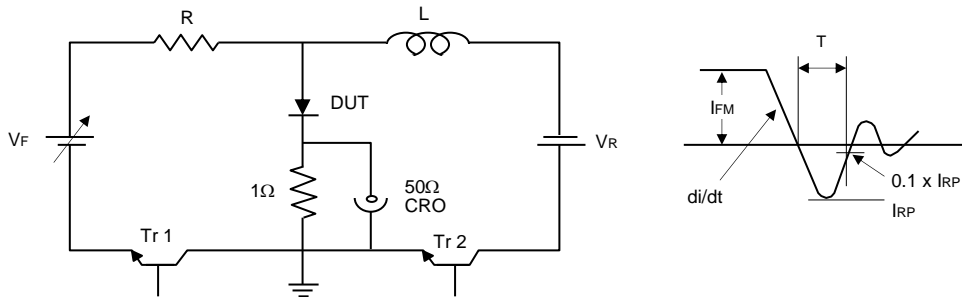


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

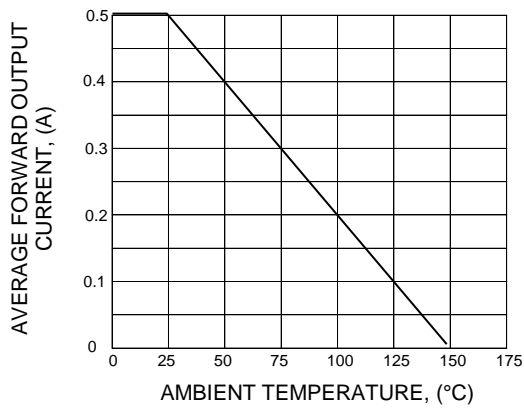


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

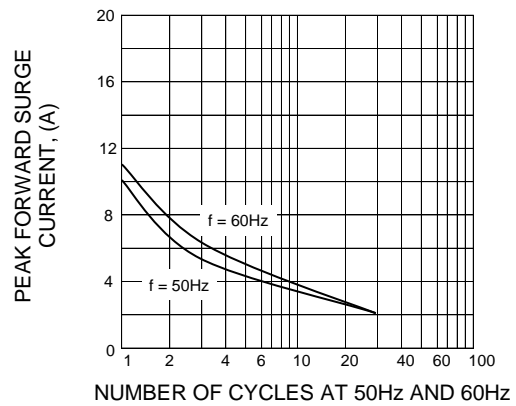


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

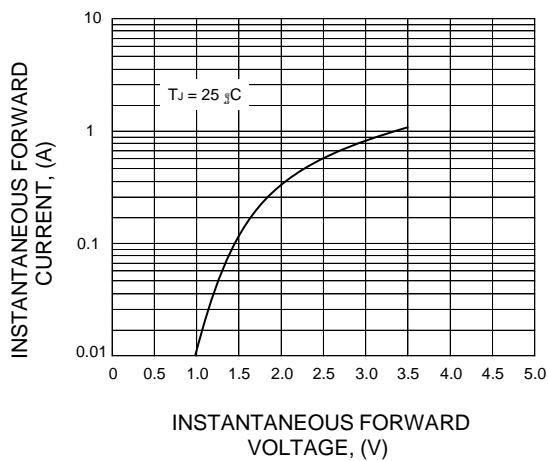


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

