

# ES1F

## FAST RECOVERY RECTIFIER DIODES

**PRV : 1500 Volts**

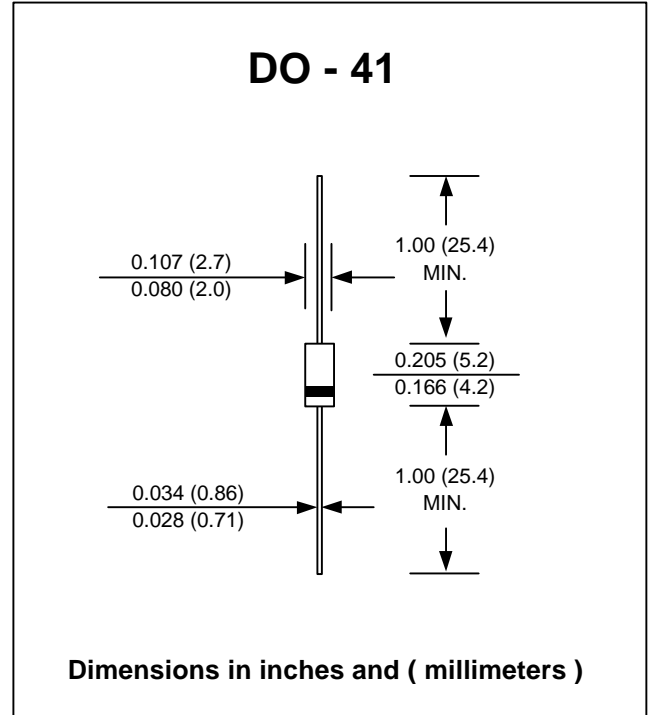
**Io : 0.5 Ampere**

### 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 : 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 : 0.339 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	VALUE	UNIT
Maximum Peak Reverse Voltage	V <sub>RM</sub>	1500	V
Maximum Peak Reverse Surge Voltage	V <sub>RSM</sub>	1600	V
Maximum Average Forward Current Ta = 50 °C	I <sub>F(AV)</sub>	0.5	A
Maximum Peak Forward Surge Current ( 50 Hz, Half-cycle, Sine wave, Single Shot )	I <sub>FSM</sub>	20	A
Maximum Forward Voltage at I <sub>F</sub> = 0.5 A	V <sub>F</sub>	2.0	V
Maximum Reverse Current at V <sub>R</sub> = V <sub>RM</sub> Ta = 25 °C	I <sub>R</sub>	10	μA
Maximum Reverse Current at V <sub>R</sub> = V <sub>RM</sub> Ta = 100 °C	I <sub>R(H)</sub>	200	μA
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	1.5	μs
Junction Temperature Range	T <sub>J</sub>	- 40 to + 150	°C
Storage Temperature Range	T <sub>STG</sub>	- 40 to + 150	°C

### Notes :

( 1 ) Reverse Recovery Test Conditions : I<sub>F</sub> = 10 mA, I<sub>RP</sub> = 10 mA.

## RATING AND CHARACTERISTIC CURVES ( ES1F )

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

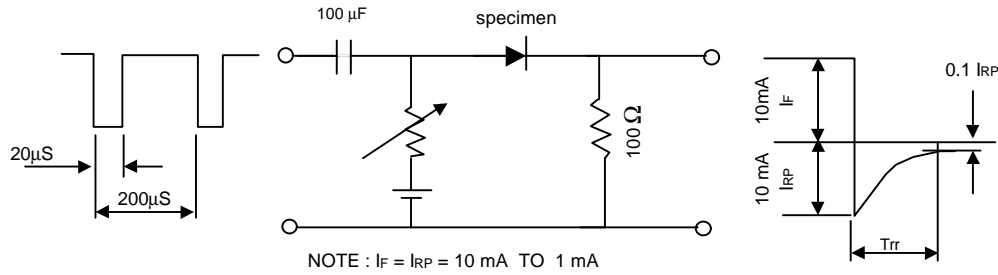


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

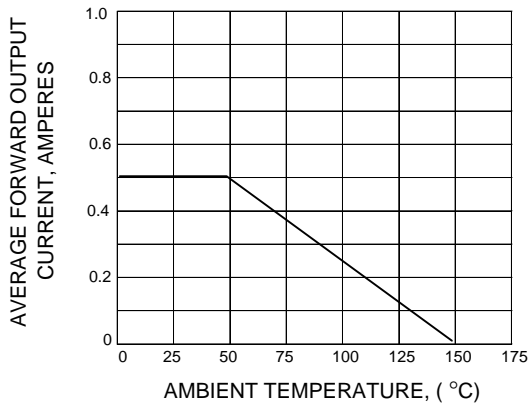


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

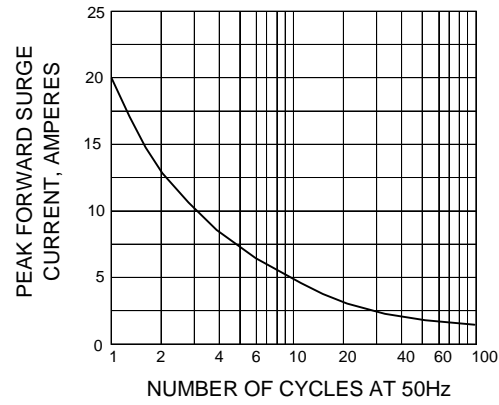


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

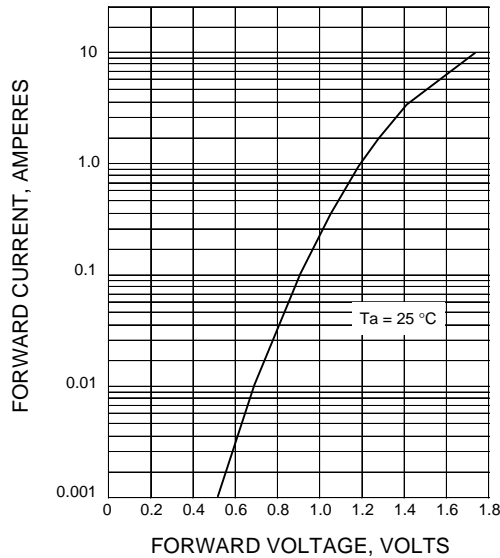


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

