www.eicsemi.com

FAR5000 - FAR5010

FAST RECOVERY AUTOMOTIVE RECTIFIER

PRV : 50 - 1000 Volts
Io : 50 Amperes

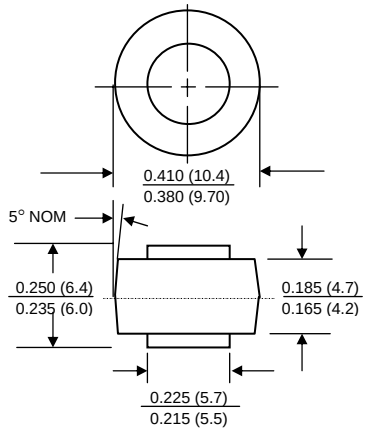
FEATURES :

* 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 : Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Terminals : Terminal are readily solderable
* Polarity : Cathode polarity band
* Mounting position : Any
* Weight : 1.84 grams

BUTTON CASE



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

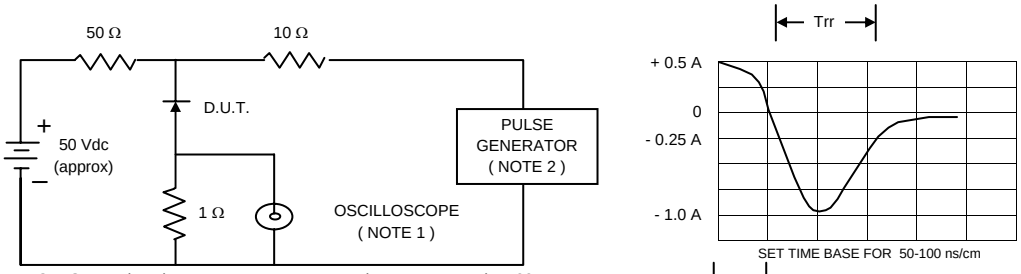
Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

RATING	SYMBOL	FAR 5000	FAR 5001	FAR 5002	FAR 5004	FAR 5006	FAR 5008	FAR 5010	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Average Rectified Forward Current Tc = 150°C	$I_{F(AV)}$	50							A
Peak Forward Surge Current Single half sine wave superimposed on rated load (JEDEC Method)	I_{FSM}	500							A
Maximum Forward Voltage at I_F = 50 Amps.	V_F	1.3							V
Maximum DC Reverse Current Ta = 25 °C	I_R	10							μA
at rated DC Blocking Voltage Ta = 100 °C	$I_{R(H)}$	1.0							mA
Maximum Reverse Recovery Time (Note 1)	Trr	150				250	500		ns
Thermal Resistance (Note 1)	RθJC	0.8							°C/W
Junction Temperature Range	T_J	- 65 to + 175							°C
Storage Temperature Range	T_{STG}	- 65 to + 175							°C

Notes : (1) Reverse Recovery Test Conditions : I_F = 0.5 A, I_R = 1.0 A, Irr = 0.25 A.
(2) Thermal resistance from junction to case. Single side cooled.

RATING AND CHARACTERISTIC CURVES (FAR5000 - FAR5010)

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



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
2. Rise time = 10 ns max., Source Impedance = 50 ohms.
3. All Resistors = Non-inductive Types.

FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

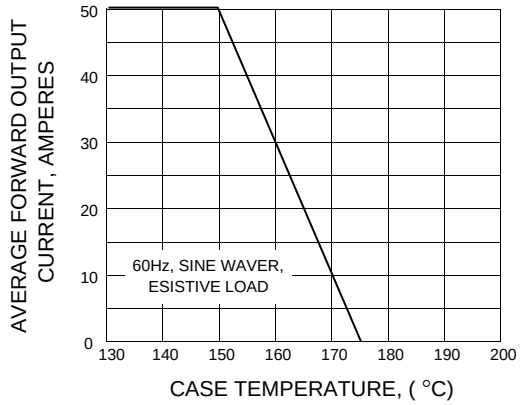


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

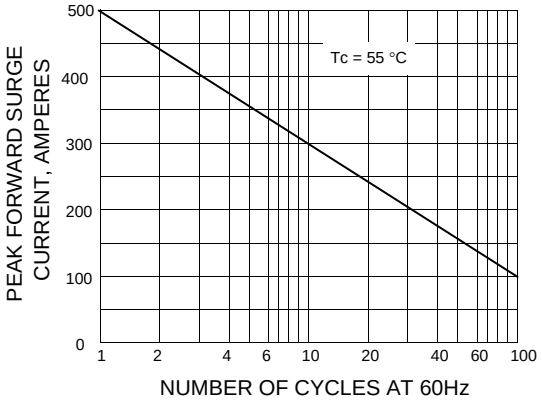


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

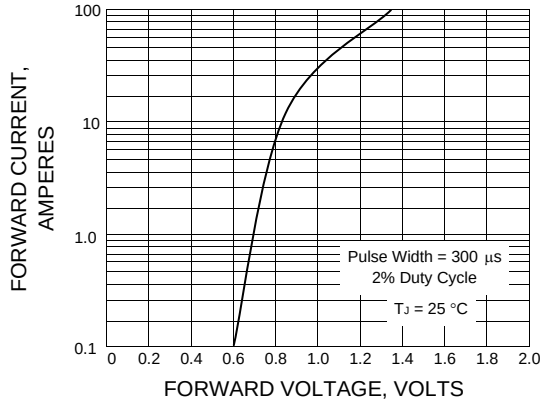


FIG.5 - TYPICAL REVERSE CHARACTERISTICS