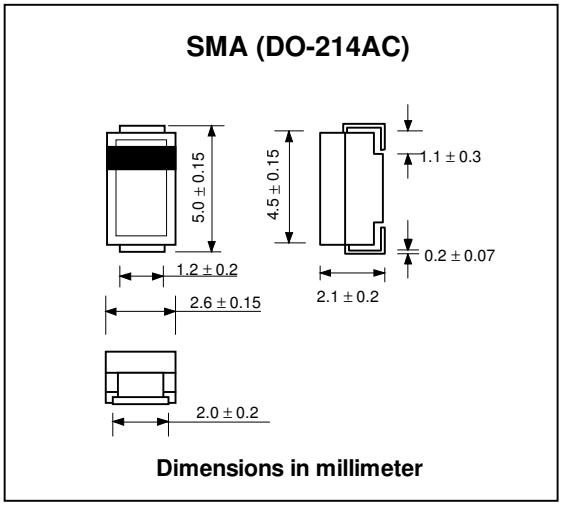
SYNSEMI SEMICONDUCTOR

MURA105, MURA110

SURFACE MOUNT ULTRAFAST RECTIFIERS

PRV : 50 - 100 Volts
Io : 1.0 Ampere



FEATURES :

* High current capability
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Super fast recovery time
* Pb / RoHS Free

MECHANICAL DATA :

* Case : SMA Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Lead Formed for Surface Mount
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 0.067 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	MURA105	MURA110	UNIT
Maximum Peak Repetitive Reverse Voltage	V_{RRM}	50	100	V
Maximum Working Peak Reversr Voltage	V_{RWM}	50	100	V
Maximum DC Blocking Voltage	V_{DC}	50	100	V
Maximum Average Rectified Forward Current	$I_{F(AV)}$	1.0 (T_L = 155 ºC)		V
		2.0 (T_L = 135 ºC)		
Maximum Non-Repetitive Peak Surge Current (Surge Applied at Rate Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	50		A
Maximum Instantaneous Forward Voltage at I_F = 1.0 A (Note 1)	V_F	0.875 (T_J = 25°C)		V
		0.66 (T_J = 150°C)		
Maximum Instantaneous Reverse Current (Note 1)	I_R	2.0 (T_J = 25°C)		µA
(Rated dc Voltage)	$I_{R(H)}$	50 (T_J = 150°C)		
Thermal Resistance, Junction to Lead (Note 2)	$R_{\theta JL}$	24		ºC/W
Thermal Resistance, Junction to Ambient (Note 2)	$R_{\theta JA}$	216		ºC/W
Maximum Reverse Recovery Time (I_F=1.0A, di/dt = 50A/µs)	Trr	30		ns
Operating Junction Temperature Range	T_J	- 65 to + 175		ºC

Notes :

(1) Pulse Test : Pulse Width = 300 µs, Duty Cycle ≤ 2.0 %.

(2) Rating Applies when surface mounted on the minimum pad size recommended, PC Board FR-4.

RATING AND CHARACTERISTIC CURVES (MURA105, MURA110)

FIG.1 - CURRENT DERATING, LEAD

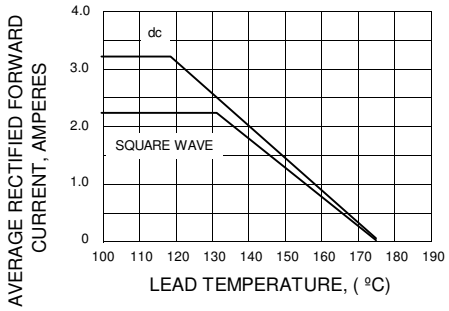


FIG.2 - MAXIMUM CAPACITANCE

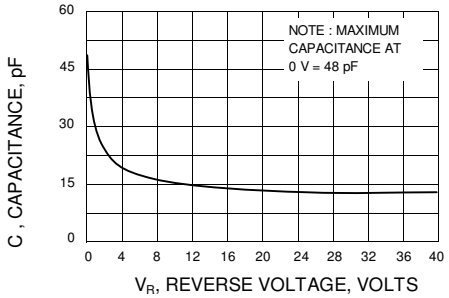


FIG.3 - MAXIMUM INSTANTANEOUS FORWARD VOLTAGE

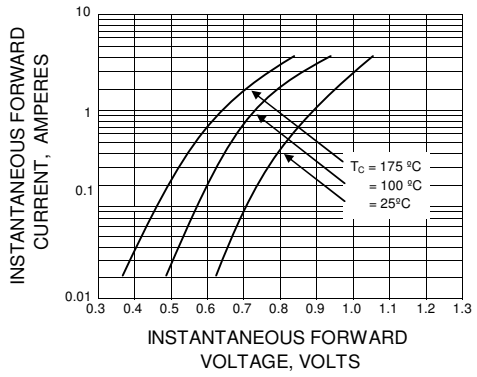


FIG. 4 - MAXIMUM REVERSE CURRENT

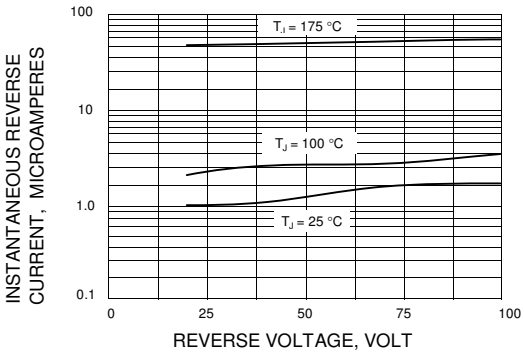


FIG. 5 – POWER DISSIPATION