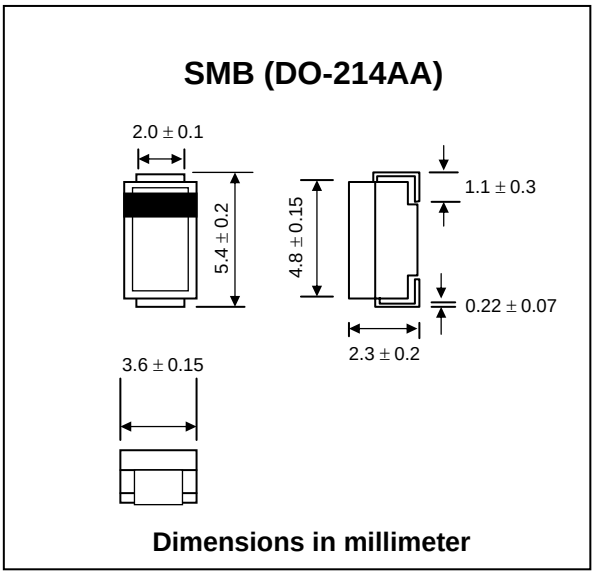
SYNSEMI SEMICONDUCTOR

S2A ~ S2M

SURFACE MOUNT RECTIFIERS

PRV : 50 - 1000 Volts
Io : 1.5 Ampere



FEATURES :

* High current capability
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Pb / RoHS Free

MECHANICAL DATA :

* Case : SMB Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Lead Formed for Surface Mount
* Polarity : Indicated by cathode band
* Mounting position : Any
* Weight : 0.093 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

RATING	SYMBOL	S2A	S2B	S2D	S2G	S2J	S2K	S2M	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
Maximum Average Forward Current (See fig. 1)	$I_{F(AV)}$	1.5							A
Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method) T_L = 100 °C	I_{FSM}	50							A
Maximum Instantaneous Forward Voltage at I_F = 1.5 A.	V_F	1.15							V
Maximum DC Reverse Current Ta = 25 °C	I_R	1.0							μA
at rated DC Blocking Voltage Ta = 125 °C	$I_{R(H)}$	125							μA
Typical thermal resistance (Note 1)	RθJA	100							°C/W
	RθJL	20							°C/W
Typical Junction Capacitance (Note 2)	C_J	30							pF
Junction Temperature Range	T_J	- 55 to + 150							°C
Storage Temperature Range	T_{STG}	- 55 to + 150							°C

Notes :

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

(2) Mesured at 1.0 Mhz and applied Vr=4.0 volts

RATING AND CHARACTERISTIC CURVES (S2A - S2M)

FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

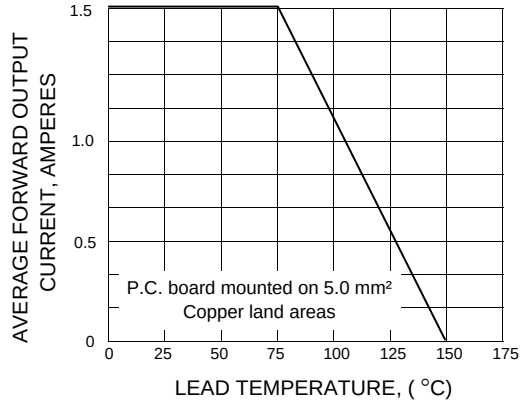


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

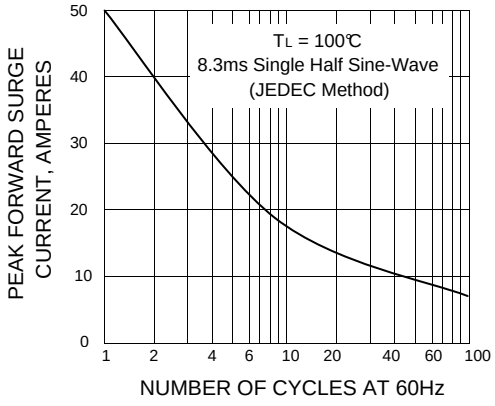


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

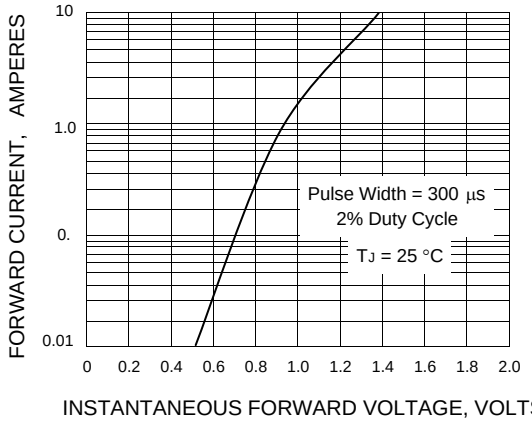


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

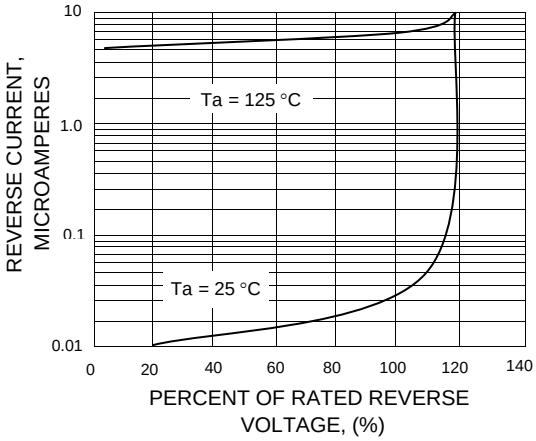


FIG. 5 – TYPICAL JUNCTION CAPACITANCE