

US1A - US1M

SURFACE MOUNT ULTRA FAST RECTIFIERS

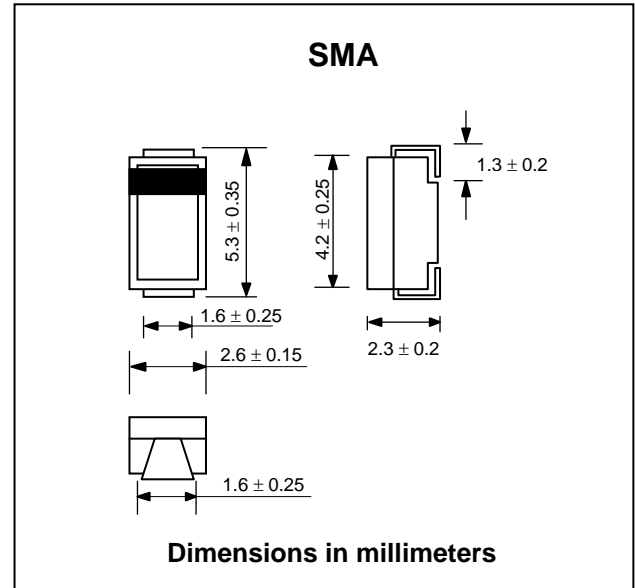
PRV : 50 ~ 1000 Volts
Io : 1.0 Ampere

FEATURES :

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

MECHANICAL DATA :

- * Case : SMA Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.060 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%.

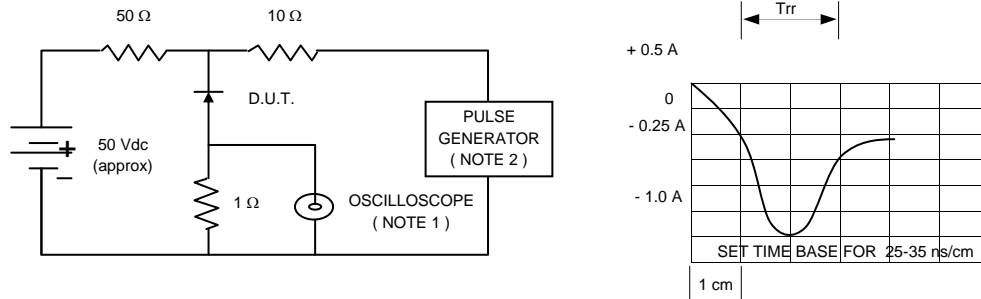
RATING	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum Continuous Reverse Voltage	V_R	50	100	200	400	600	800	1000	V
Maximum Average Forward Current	$I_{F(AV)}$	1.0							A
Maximum non-repetitive peak forward current 8.3ms Single half sine wave,	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at $I_F = 1.0$ A	V_F	1.1				1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	10							μA
	$I_{R(H)}$	50							μA
Maximum Reverse Recovery Time ⁽¹⁾	T_{rr}	50				75			ns
Typical Junction Capacitance ⁽²⁾	C_J	15				10			pF
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, $I_{rr} = 0.25$ A.
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC

RATING AND CHARACTERISTIC CURVES (US1A - US1M)

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

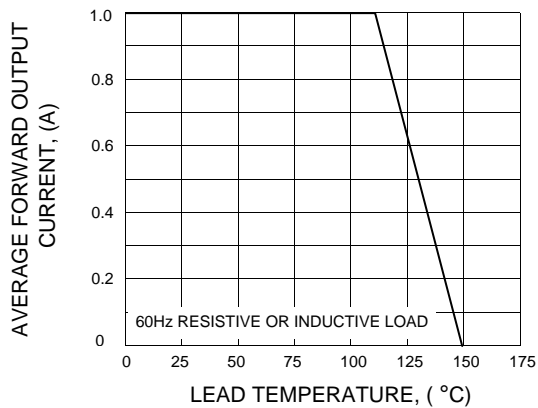


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

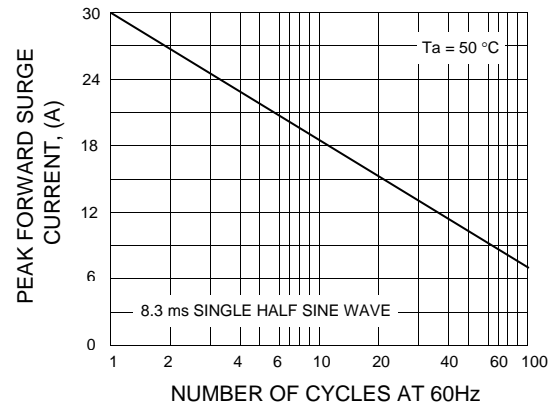


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

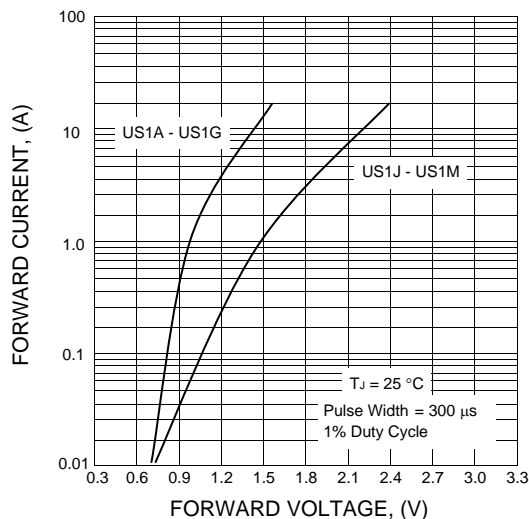


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

