FUKUCOM COMPANY LTD.
福 靈 有 限 公 司
FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.
TEL: 852-2790 0314 FAX: 852-2790 0206

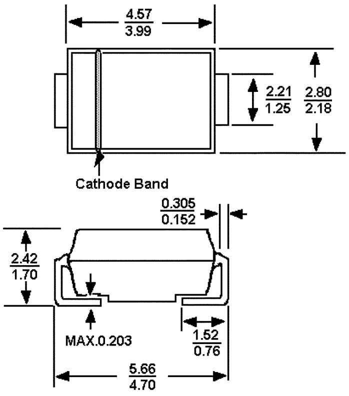
US1A THRU US1M

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIERS

Reverse Voltage – 50 to 1000 Volts

Forward Current – 1.0 Ampere

SMA DO-214AC



Dimensions in mm

Features

- For surface mount applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature soldering guaranteed: 260°C/10 seconds on terminals

Mechanical Data

- **Case:** JEDEC DO-214AC(SMA) molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, method 2026 guaranteed
- **Polarity:** Color band denotes cathode end

Maximum Ratings and Electrical Characteristics

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

	Symbols	**US1A**	**US1B**	**US1D**	**US1G**	**US1J**	**US1K**	**US1M**	**Units**
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 rectified current at T_L = 100℃	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							A
Maximum forward voltage at 1A	V_F	1			1.3	1.7			V
Maximum DC reverse current T_A = 25℃ at rated DC blocking voltage T_A = 100℃	I_R	5 100							μA
Typical junction capacitance at 4V, 1MHz	C_J	17							pF
Typical thermal resistance[1]	$R_{\theta JL}$	30							℃/W
Maximum reverse recovery time at I_F = 0.5A, I_R = 1A, I_{rr} = 0.25A	t_{rr}	50				75			ns
Operating and storage temperature range	T_J ,T_S	-55 to +150							℃

Note: (1) Thermal resistance from junction to lead mounted on P.C.B. w ith 0.3x0.3" (8.0x8.0 mm) copper pad areas.

SEMTECH

Dated : 28/04/2005

US1A THRU US1M

RATING AND CHARACTERISTIC CURVES

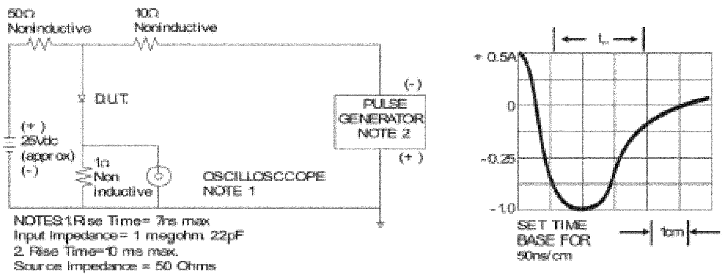


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

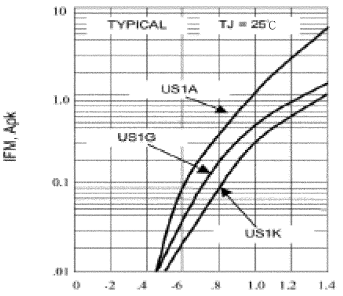


Fig. 2-FORWARD CHARACTERISTICS

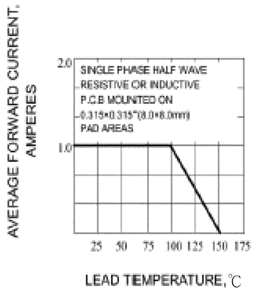


Fig. 3-FORWARD CURRENT DERATING CURVE

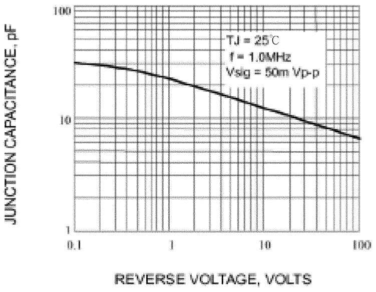


Fig. 4-TYPICAL JUNCTION CAPACITANCE

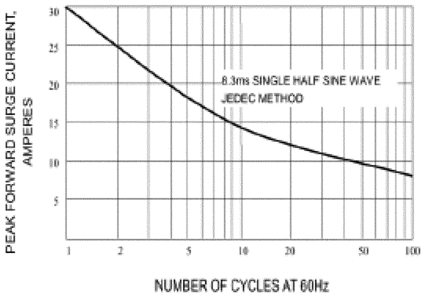


Fig. 5-PEAK FORWARD SURGE CURRENT