

US1A THRU US1K

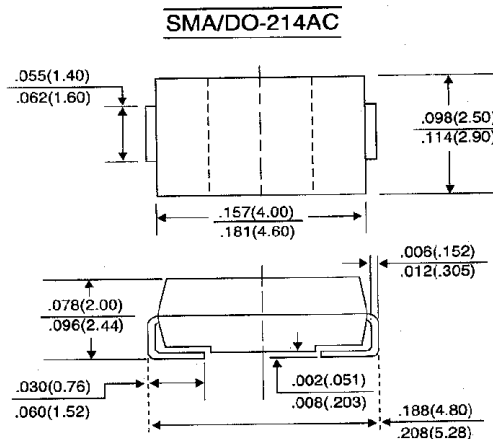
SURFACE MOUNT ULTRAFAST RECTIFIER
VOLTAGE - 50 TO 800 Volts CURRENT - 1.0 Ampere

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- High temperature soldering:
260°C/10 seconds at terminals

MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic
Terminals: Solder plated solderable per MIL-STD-750, Method 2026
Polarity: Indicated by cathode band
Standard Packaging: 12mm tape (EIA-481)
Weight: 0.002 ounces, 0.064 gram



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Resistive or inductive load.
For capacitive load, derate current by 20%.

	SYMBOLS	US1A	US1B	US1D	US1G	US1J	US1K	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	Volts
Maximum Average Forward Rectified Current, at TL = 100°C	IAV	1.0						Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) TA = 55°C	IFSM	30.0						Amps
Maximum Instantaneous Forward Voltage at 1.0A	VF	1.0			1.4	1.7		Volts
Maximum DC Reverse Current TA = 25°C at Rated DC Blocking Voltage TA = 100°C	IR	10.0 100						μA
Maximum Reverse Recovery Time (NOTE 1) TJ = 25°C	TRR	50.0				100.0		nS
Typical Junction Capacitance (NOTE 2)	CJ	17.0						pf
Maximum Thermal Resistance (NOTE 3)	RθJL	30.0						°C/W
Operating and Storage Temperature Range	TJ,TSTG	-50 to +150						°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.
3. 8.0mm² (.013mm thick) land areas.

RATING AND CHARACTERISTIC CURVES US1A—US1K

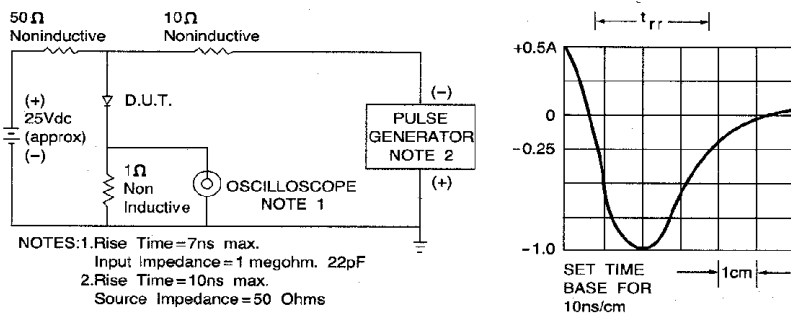


Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

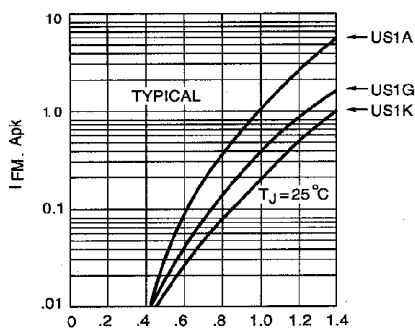


Fig. 2 - FORWARD CHARACTERISTICS

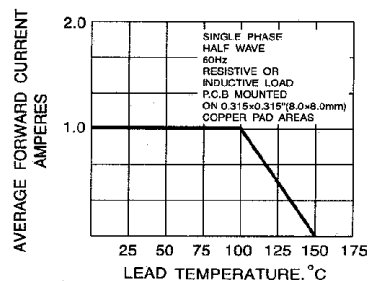


Fig. 3 - FORWARD CURRENT DERATING CURVE

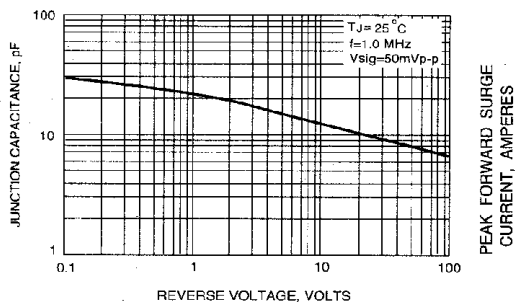


Fig. 4 - TYPICAL JUNCTION CAPACITANCE

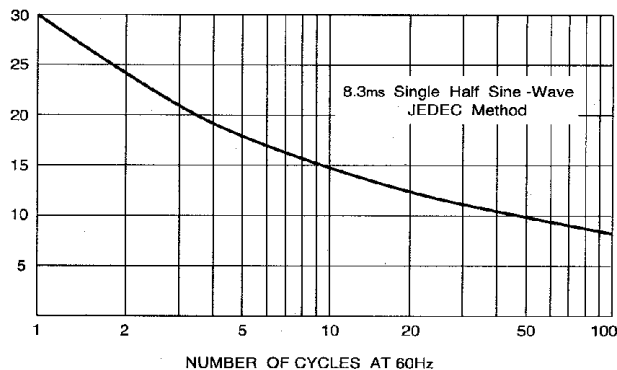


Fig. 5 - PEAK FORWARD SURGE CURRENT