

US1A THRU US1K

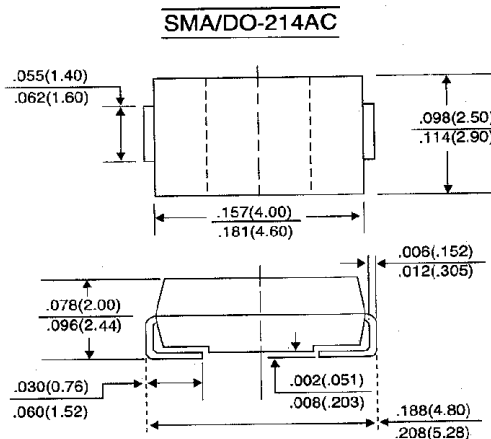
SURFACE MOUNT ULTRAFAST RECTIFIER
VOLTAGE - 50 TO 800 Volts CURRENT - 1.0 Ampere

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	V _{RRM}	50	100	200	400	600	800	Volts
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	Volts
Maximum Average Forward Rectified Current, at T _L = 100°C	I <sub(av)< sub=""></sub(av)<>	1.0						Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) T _A = 55°C	I _{FSM}	30.0						Amps
Maximum Instantaneous Forward Voltage at 1.0A	V _F	1.0		1.4		1.7		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25°C T _A = 100°C	I _R	10.0 100						μA
Maximum Reverse Recovery Time (NOTE 1) T _J = 25°C	T _{RR}	50.0				100.0		nS
Typical Junction Capacitance (NOTE 2)	C _J	17.0						pf
Maximum Thermal Resistance (NOTE 3)	R _{θJL}	30.0						°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-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

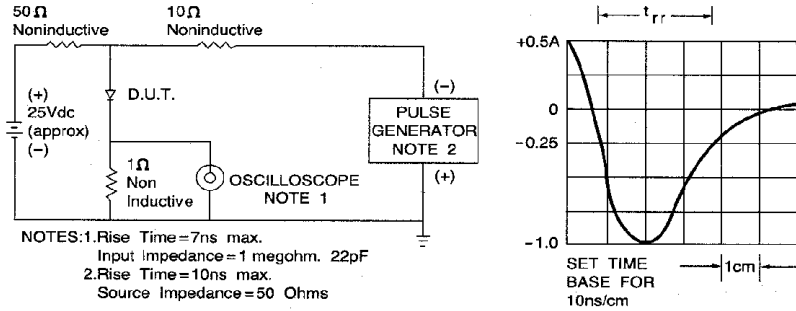


Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

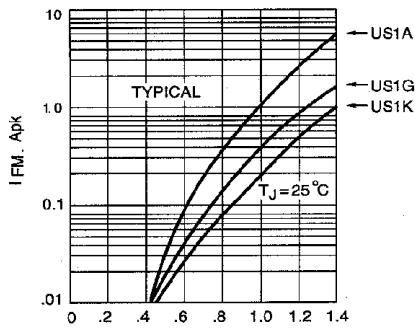


Fig. 2 - FORWARD CHARACTERISTICS

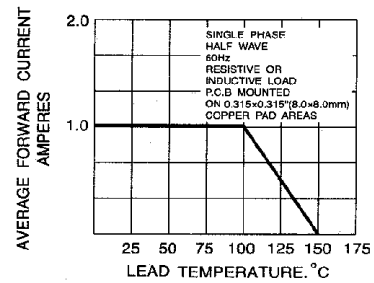


Fig. 3 - FORWARD CURRENT DERATING CURVE

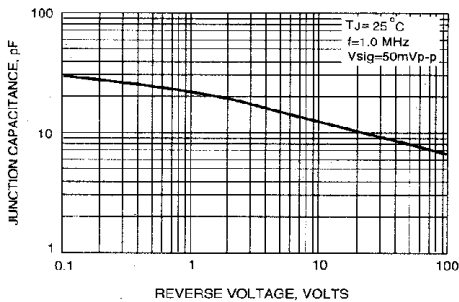


Fig. 4 - TYPICAL JUNCTION CAPACITANCE

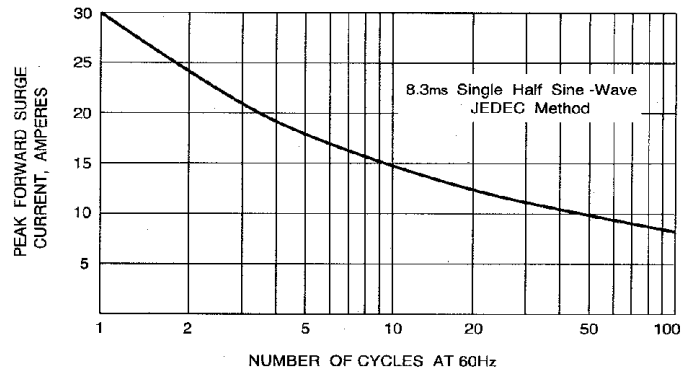


Fig. 5 - PEAK FORWARD SURGE CURRENT