



## US3A THRU US3M

### SURFACE MOUNT ULTRA FAST SWITCHING RECTIFIER

TECHNICAL SPECIFICATION

**VOLTAGE: 50 TO 1000V CURRENT: 3.0A**

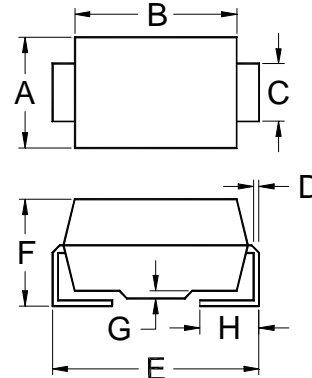
#### FEATURES

- Ideal for surface mount pick and place application
- Low profile package
- Built-in strain relief
- High surge capability
- Glass passivated chip
- Ultra fast recovery for high efficiency
- High temperature soldering guaranteed: 260°C/10sec/at terminal

#### MECHANICAL DATA

- Terminal: Plated leads solderable per MIL-STD 202E, method 208C
- Case: Molded with UL-94 Class V-O recognized flame retardant epoxy
- Polarity: Color band denotes cathode

#### SMC/DO-214AB



	A	B	C	D
MAX.	.245(6.22)	.280(7.11)	.124(3.15)	.012(0.305)
MIN.	.220(5.59)	.260(6.60)	.108(2.75)	.006(0.152)
	E	F	G	H
MAX.	.320(8.13)	.096(2.44)	.008(0.203)	.060(1.52)
MIN.	.305(7.75)	.084(2.13)	.004(0.102)	.030(0.76)

Dimensions in inches and (millimeters)

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Single-phase, half-wave, 60Hz, resistive or inductive load rating at 25°C, unless otherwise stated, for capacitive load, derate current by 20%)

RATINGS	SYMBOL	US 3A	US 3B	US 3D	US 3G	US 3J	US 3K	US 3M	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 ( $T_L=75^\circ\text{C}$ )	$I_{F(AV)}$	3.0							A
Peak Forward Surge Current (8.3ms single half sine-wave superimposed on rated load)	$I_{FSM}$	100							A
Maximum Instantaneous Forward Voltage (at rated forward current)	$V_F$	1.0		1.4		1.7		V	
Maximum DC Reverse Current ( $T_a=25^\circ\text{C}$ )	$I_R$	10.0							$\mu\text{A}$
(at rated DC blocking voltage) ( $T_a=100^\circ\text{C}$ )		500							$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	trr	50			75			nS	
Typical Junction Capacitance (Note 2)	$C_J$	45							pF
Typical Thermal Resistance (Note 3)	$R_{\theta(ja)}$	25							$^\circ\text{C/W}$
Storage and Operation Junction Temperature	$T_{STG}, T_J$	-50 to +150							$^\circ\text{C}$

Note:

- 1.Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$ .
- 2.Measured at 1.0 MHz and applied voltage of  $4.0V_{dc}$
- 3.Thermal resistance from junction to terminal mounted on 5x5mm copper pad area