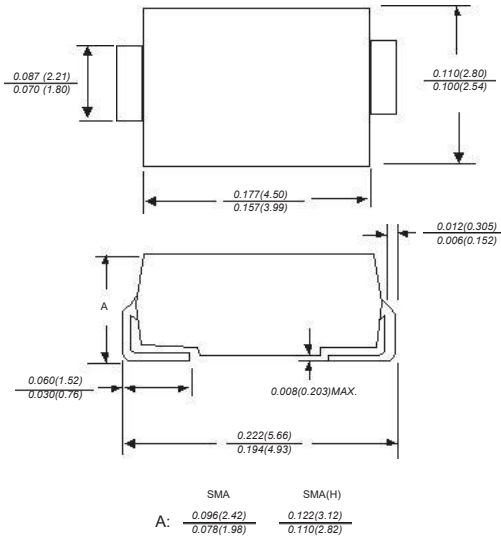


## SURFACE MOUNT SUPER FAST RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 1.0 Ampere

### DO-214AC(SMA)



Dimensions in inches and (millimeters)

### FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Super fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds at terminals

### MECHANICAL DATA

**Case:** JEDEC DO-214AC molded plastic body

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.003 ounce, 0.093 grams  
0.004 ounce, 0.111 grams SMA(H)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

	SYMBOLS	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	UNITS	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	VOLTS	
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	VOLTS	
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	VOLTS	
Maximum average forward rectified current at $T_L=55^\circ\text{C}$	$I_{(AV)}$	1.0							Amp	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0							Amps	
Maximum instantaneous forward voltage at 1.0A	$V_F$	0.95			1.25				Volts	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0				50.0				mA
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	35								ns
Typical junction capacitance (NOTE 2)	$C_J$	15.0								pF
Typical thermal resistance (NOTE 3)	$R_{qJA}$	60.0								$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 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 1MHz and applied reverse voltage of 4.0V D.C.  
3. P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

## RATINGS AND CHARACTERISTIC CURVES ES1A THRU ES1J

FIG. 1- FORWARD CURRENT DERATING CURVE

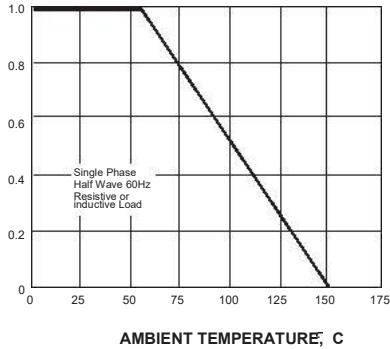


FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

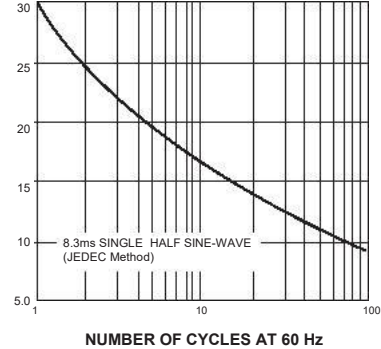


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

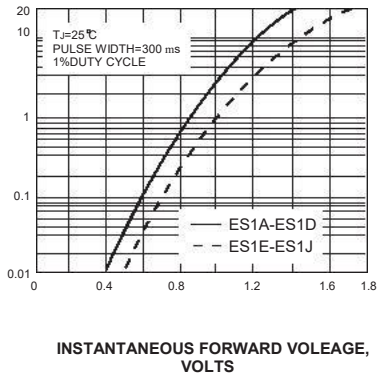


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

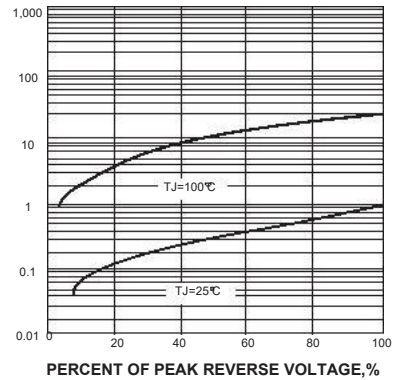


FIG. 5- TYPICAL JUNCTION CAPACITANCE

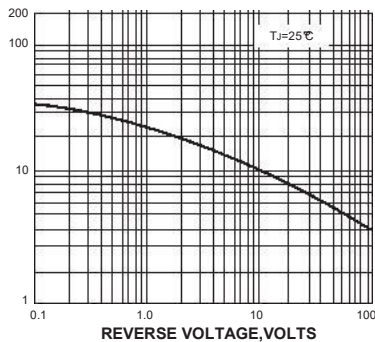


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE

