



PINGWEI ENTERPRISE

# ES1A THRU ES1J

## 1.0 AMP. SUPER FAST SURFACE MOUNT RECTIFIER

### FEATURE

- . High current capability
- . Low forward voltage drop
- . Low power loss, high efficiency
- . High surge capability
- . High temperature soldering guaranteed:  
260°C/10 seconds at terminals.
- . Superfast recovery time for high efficiency.
- . For surface mounted application.
- . Easy pick and place.

### MECHANICAL DATA

- . Case: Molded plastic
- . Epoxy: UL94V-0 rate flame retardant
- . Lead: MIL-STD- 202E, Method 208 guaranteed
- . Polarity: Color band denotes cathode end
- . Packaging: 12mm tape per EIA STD RS-481
- . Mounting position: Any

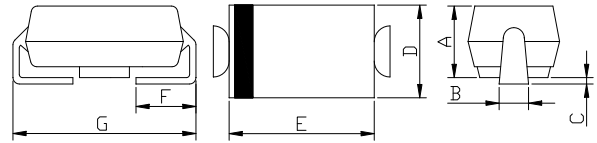


Fig1: SMA/DO-214AC\*  
FOR OPEN JUNCTION DICE PACKAGING OUTLINE

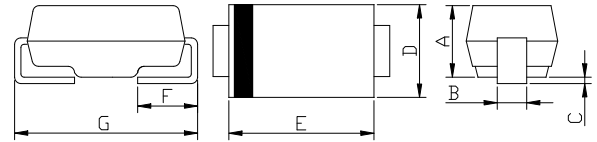


Fig2: SMA/DO-214AC  
FOR GLASS PASSIVATED DICE PACKAGING OUTLINE

NO	Fig1 (mm)	Fig2 (mm)
A	1.9~2.4	1.98~2.3
B	1.2~1.8	1.35~1.6
C	0.23MAX	0.2MAX
D	2.4~2.9	2.4~2.9
E	3.8~4.6	3.8~4.6
F	0.8~1.8	0.8~1.8
G	4.8~5.8	4.8~5.8

### 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, derate current by 20%

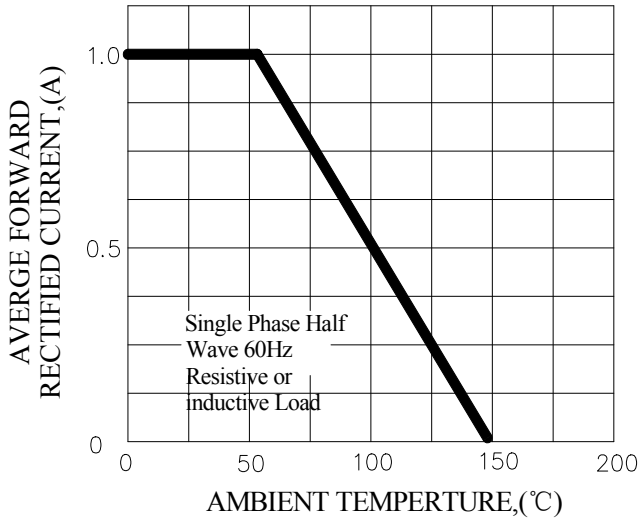
Type Number	SYM BOL	ES1A	ES1B	ES1D	ES1G	ES1J	units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	V
Maximum DC blocking Voltage	$V_{DC}$	50	100	200	400	600	V
Maximum Average Forward Rectified Current at $T_A=55^\circ\text{C}$	$I_{F(AV)}$	1.0					A
Peak Forward Surge Current 8.3ms single half sine- wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30.0					A
Maximum Forward Voltage at 1.0A DC	$V_F$	0.95		1.3		1.7	V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	5.0 100.0					$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	35					nS
Typical Junction Capacitance (Note 2)	$C_J$	10			8		pF
Typical Thermal Resistance (Note 3)	$R_{(JA)}$	85					$^\circ\text{C/W}$
Storage Temperature	$T_{STG}$	-55 to +150					$^\circ\text{C}$
Operation Junction Temperature	$T_J$	-55 to +150					$^\circ\text{C}$

#### Note:

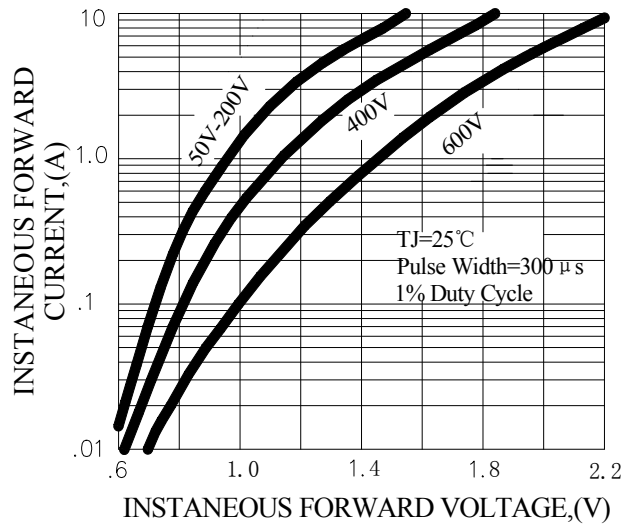
1. Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Measured on P.C.Board with 0.2×0.2”(5.0×5.0mm)Copper Pad Areas.

**RATING AND CHARACTERISTIC CURVES (ES1A THRU ES1J)**

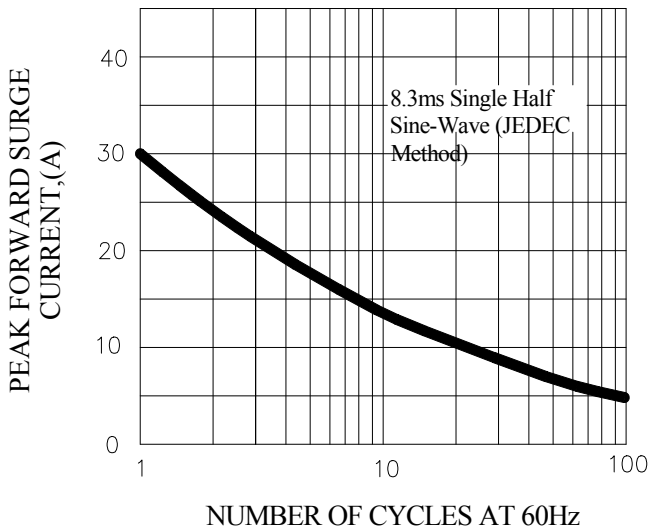
**FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE**



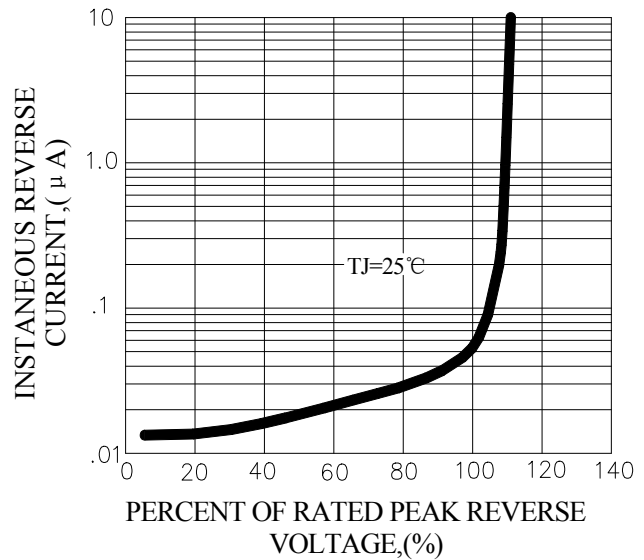
**FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



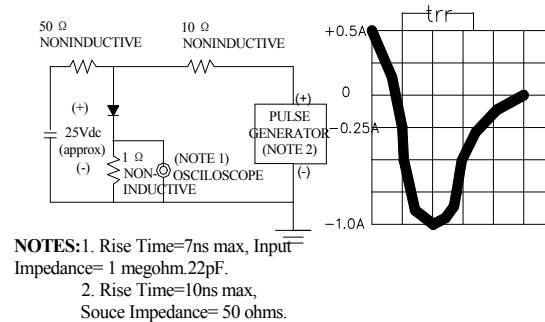
**FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS**



**FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



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