

Surface Mount Rectifiers

ES1A--ES1J

FEATURES

- Low cost
- Low leakage
- Low forward voltage drop
- High current capability
- Easily cleaned with Alcohol ,Isopropanol and similar solvents
- The plastic material carries U/L recognition 94V-0



MECHANICAL DATA

- Case: DO-214AC(SMA) molded plastic
- Terminals: Solder able per MIL- STD-202,Method 208
- Polarity: Color band denotes cathode
- Weight: 0.002 ounces,0.064 grams
- Mounting position: Any

Maximum Ratings(@TA = 25°C unless otherwise specified)

Characteristic	Symbol	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1H	ES1J	UNITS
Device marking		ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1H	ES1J	
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.0								A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	30								A

Thermal Characteristics

Characteristic	Symbol	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1H	ES1J	UNITS
Typical junction capacitance (Note2)	C_J	19								p F
Typical thermal resistance	$R_{\theta JA}$	50								$^\circ\text{C}/\text{W}$
Operating junction temperature range	T_J	- 55 ---- + 150								$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150								$^\circ\text{C}$

Electrical Characteristics (@TA = 25°C unless otherwise specified)

Characteristic	Symbol	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1H	ES1J	UNITS
Maximum instantaneous forward voltage at 1.0 A	V_F	0.98				1.25		1.70		V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	I_R	5.0				200				μA
Maximum Reverse Recovery Time (Note1)	t_{rr}	35								ns

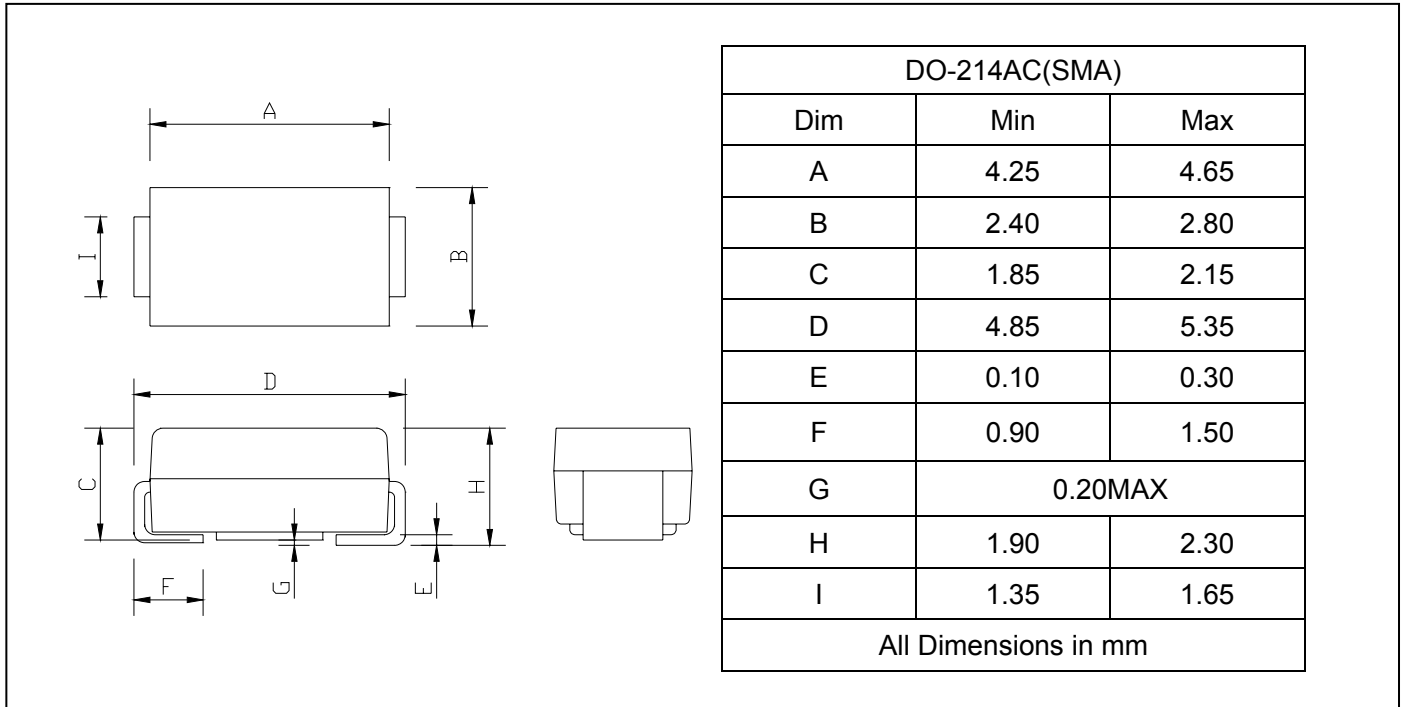
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$

2. Measured at 1.0MHZ and applied reverse voltage of 4.0VDC

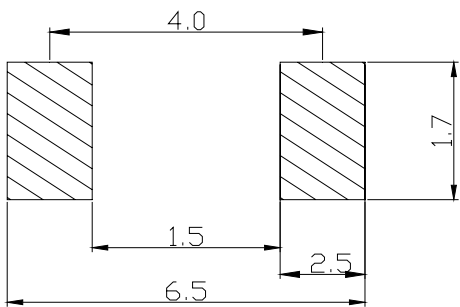
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PACKAGE OUTLINE DIMENSIONS



SOLDERING FOOTPRINT



Unit : mm

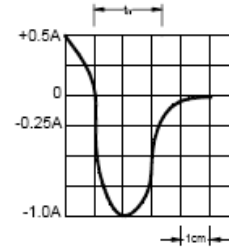
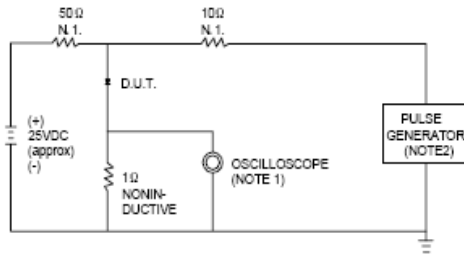
PACKAGE INFORMATION

Device	Package	Shipping
ES1A--ES1J	DO-214AC(SMA)	5000/Tape&Reel

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



NOTES: 1. RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ .22pF.
2. RISE TIME = 10ns MAX.SOURCE IMPEDANCE=50 Ω.

SET TIME BASE FOR 10/15 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

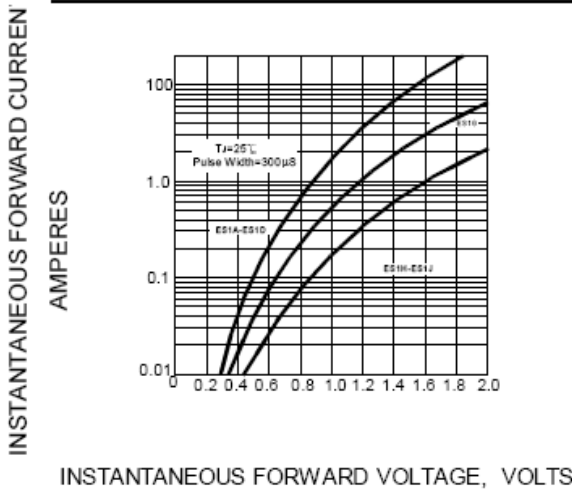


FIG.3 -- FORWARD DERATING CURVE

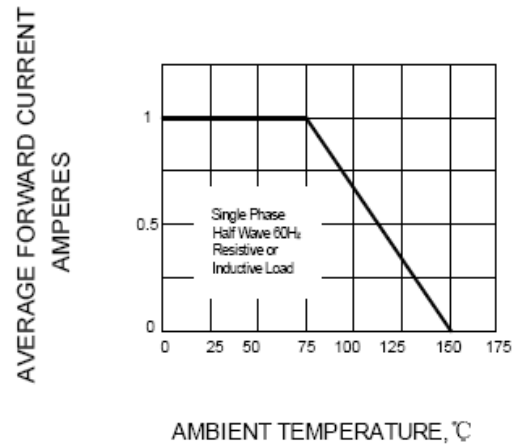


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

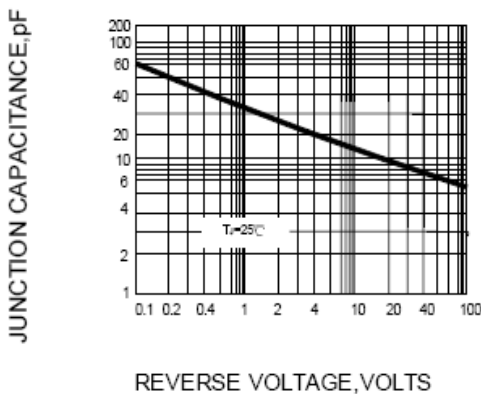


FIG.5 -- PEAK FORWARD SURGE CURRENT

