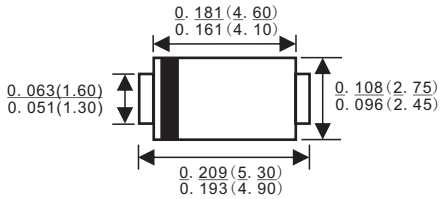
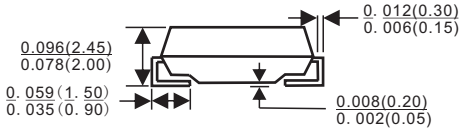
ES1AA-ES1JA

Surface Mount Rectifiers

VOLTAGE RANGE: 50 --- 600 V
CURRENT: 1.0 A

SMA/DO-214AC





Dimensions in inches and(millimeters)

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:JEDEC DO-214AC,molded plastic
- ✧ Terminals: Solderable per MIL- STD-202,Method 208
- ✧ Polarity: Color band denotes cathode
- ✧ Weight: 0.002 ounces,0.064 grams
- ✧ Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

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

Parameter	Symbol	ES1AA	ES1BA	ES1CA	ES1DA	ES1GA	ES1HA	ES1JA	
Marking code		ES1A	ES1B	ES1C	ES1D	ES1G	ES1H	ES1J	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	400	500	600	V
Maximum average forward rectified current @T_A=75℃	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @T_J=125℃	I_{FSM}	30							A
Maximum instantaneous forward voltage at1.0 A	V_F	0.95				1.25	1.70		V
Maximum reverse current @T_A=25℃	I_R	5.0							μA
at rated DC blocking voltage @T_A=125℃		200							
Typical reverse recovery time (Note1)	t_{rr}	35							ns
Typical junction capacitance (Note2)	C_J	19							pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	50							℃/W
Operating junction temperature range	T_J	- 55 ---- + 150							℃
Storage temperature range	T_{STG}	- 55 ---- + 150							℃

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

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance f rom junction to ambient and junction to lead P.C.B.mounted on 0.27"X0.27"(7.0X7.0mm2) copper pad areas

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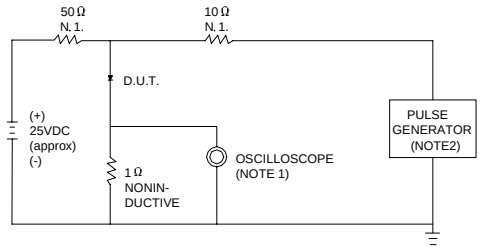
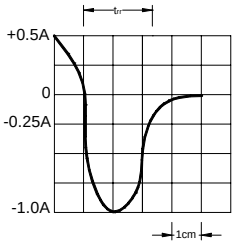
Ratings And Characteristic Curves

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

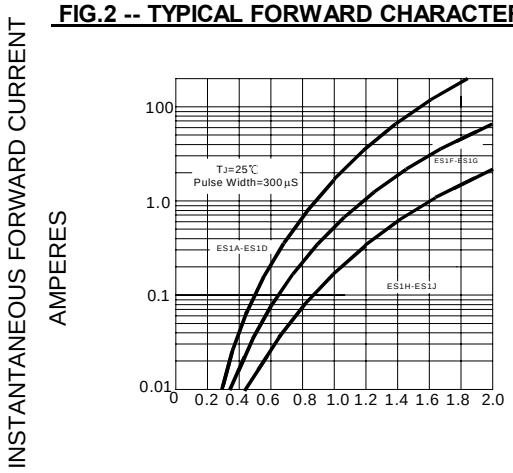




NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ.22pF.
2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω.

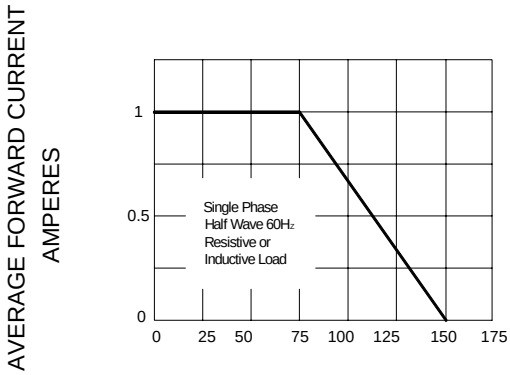
SET TIME BASE FOR 10/15 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC



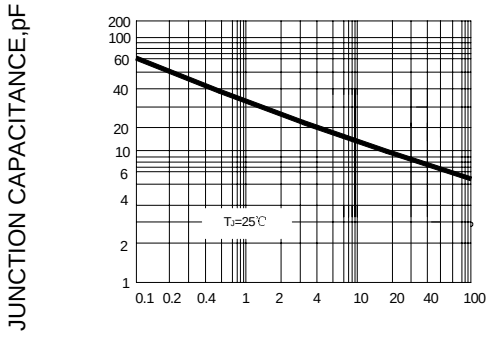
INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.3 -- FORWARD DERATING CURVE



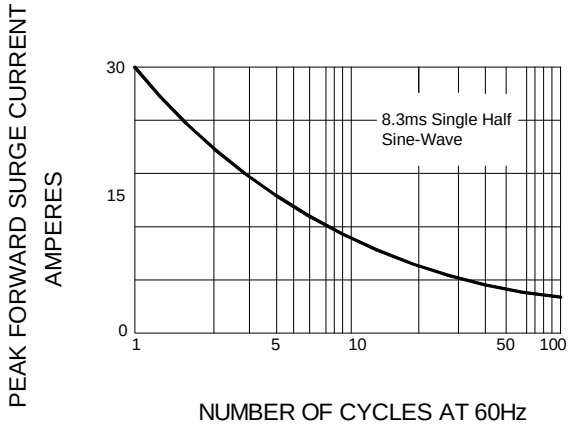
AMBIENT TEMPERATURE,℃

FIG.4 -- TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE,VOLTS

FIG.5 -- PEAK FORWARD SURGE CURRENT



NUMBER OF CYCLES AT 60Hz

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMA	5000/REEL	80000	36X30.6X31	12.00	11.00