

1A, 200V - 600V Surface Mount Super Fast Rectifiers

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Super fast recovery time for high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



DO-214AC (SMA)

MECHANICAL DATA

Case: DO-214AC (SMA)

Molding compound: UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

Packing code with suffix "G" means green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

Polarity: Indicated by cathode band

Weight: 0.06 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)					
PARAMETER	SYMBOL	ES1D-T	ES1G-T	ES1J-T	UNIT
Marking code		ES1D	ES1G	ES1J	
Maximum repetitive peak reverse voltage	V _{RRM}	200	400	600	V
Maximum RMS voltage	V _{RMS}	140	280	420	V
Maximum DC blocking voltage	V _{DC}	200	400	600	V
Maximum average forward rectified current	I _{F(AV)}	1			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30			A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V _F	0.95	1.3	1.7	V
Maximum reverse current @ rated V _R T _J =25°C T _J =125°C	I _R	5 100			μA
Maximum reverse recovery time (Note 2)	t _{rr}	35			ns
Typical junction capacitance (Note 3)	C _J	16	18		pF
Typical thermal resistance	R _{θJL} R _{θJA}	35 85			°C/W
Operating junction temperature range	T _J	- 55 to +150			°C
Storage temperature range	T _{STG}	- 55 to +150			°C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Reverse recovery time test conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and applied V_R=4.0 V

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
ES1x-T (Note 1, 2)	R3	G	SMA	1,800 / 7" Plastic reel
	R2		SMA	7,500 / 13" Paper reel
	M2		SMA	7,500 / 13" Plastic reel

Note 1: "x" defines voltage from 200V (ES1D-T) to 600V (ES1J-T)

Note 2: Whole series with green compound

EXAMPLE				
EXAMPLE PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
ES1J-T R3G	ES1J-T	R3	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

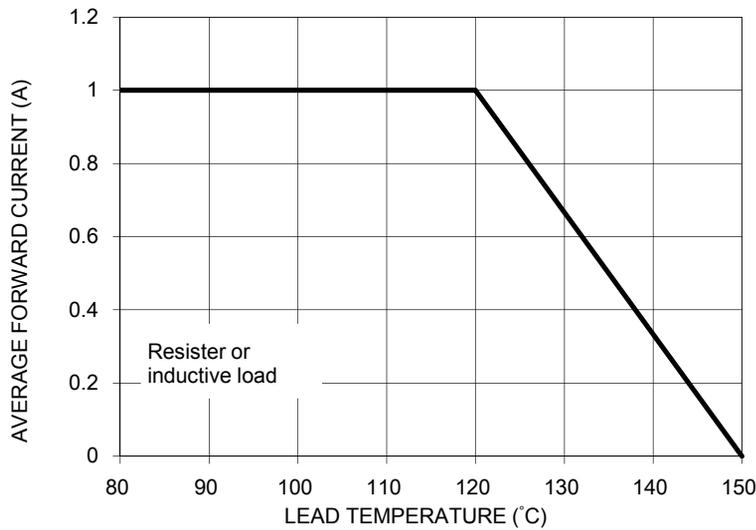


FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

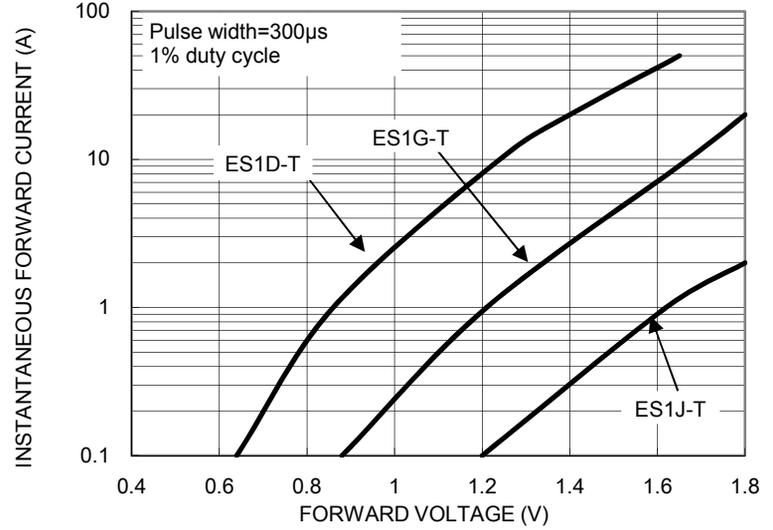


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

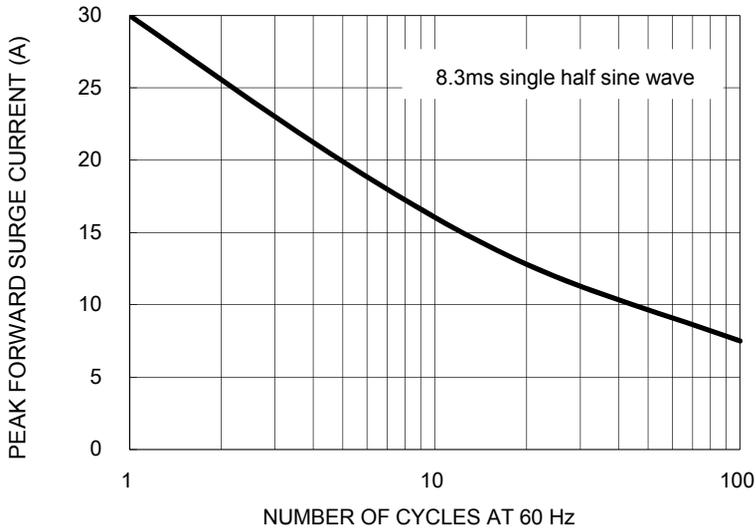


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

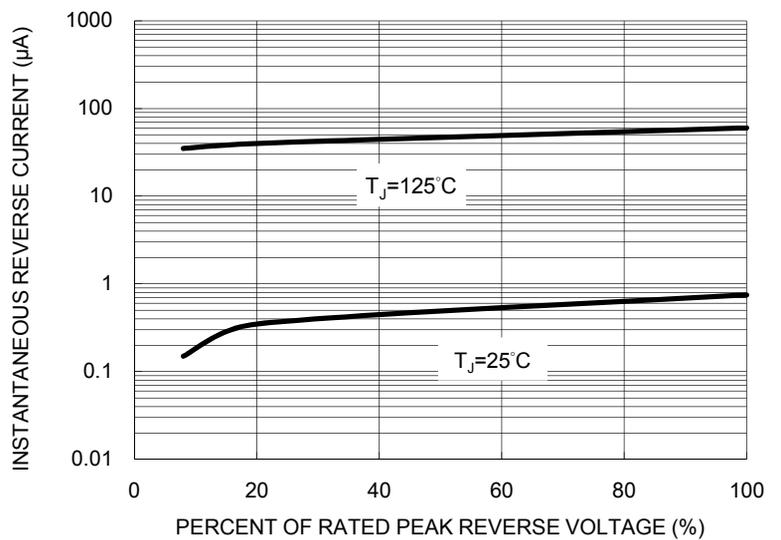
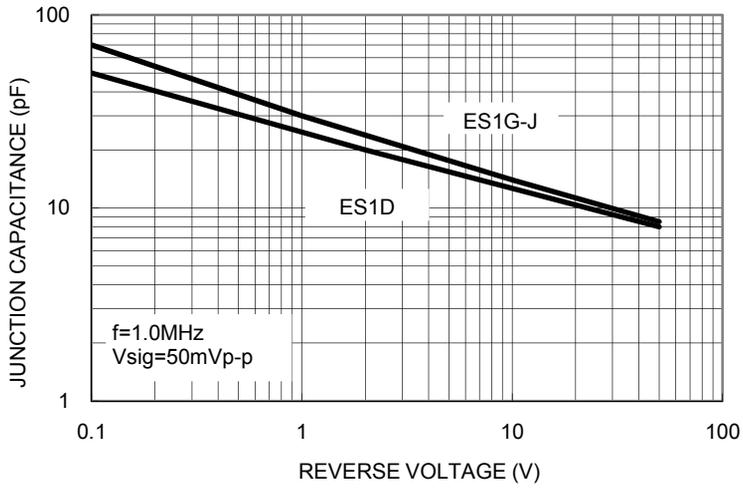
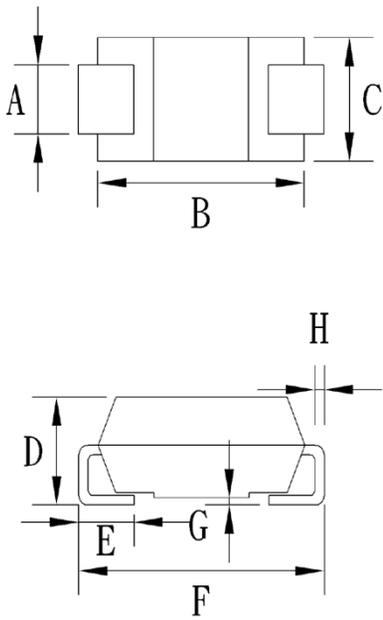


FIG. 5 TYPICAL JUNCTION CAPACITANCE

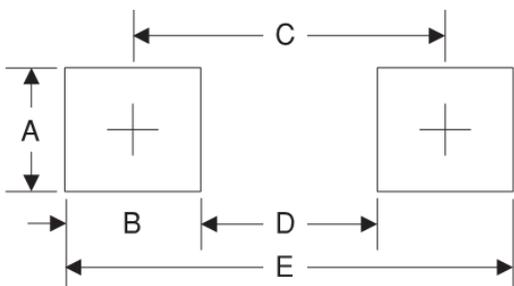


PACKAGE OUTLINE DIMENSIONS
DO-214AC (SMA)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.27	1.63	0.050	0.064
B	4.00	4.60	0.157	0.181
C	2.29	2.83	0.090	0.111
D	1.90	2.25	0.075	0.089
E	0.80	1.50	0.031	0.059
F	4.80	5.20	0.189	0.205
G	0.05	0.20	0.002	0.008
H	0.15	0.31	0.006	0.012

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.93	0.155
D	2.41	0.095
E	5.45	0.215

MARKING DIAGRAM



- P/N = Marking code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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