



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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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

APPLICATIONS

- High frequency rectification
- Freewheeling application
- Switching mode converters and inverters in computer, automotive and telecommunication.

MECHANICAL DATA

- **Case:** DO-214AC (SMA)
- Molding compound, UL flammability classification rating 94V-0
- Moisture sensitivity level: level 1, per J-STD-020
- Part No. with suffix "H" means AEC-Q101 qualified
- Packing code with suffix "G" means green compound (halogen-free)
- **Terminal:** Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- **Polarity:** Indicated by cathode band
- **Weight:** 0.06 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	1	A
V_{RRM}	200-600	V
I_{FSM}	30	A
V_F at $I_F=1A$	1.7	V
T_{JMAX}	150	°C
Package	DO-214AC (SMA)	
Configuration	Single dice	



DO-214AC (SMA)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	ES1LD	ES1LG	ES1LJ	UNIT
Marking code on the device		ES1LD	ES1LG	ES1LJ	
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
Operating Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to +150			°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction to Lead Thermal Resistance	$R_{\theta JL}$	35	°C/W
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	80	°C/W
Junction to Case Thermal Resistance	$R_{\theta JC}$	25	°C/W

Thermal Performance Note: Units mounted on recommended PCB (16mm x 16mm Cu test board)

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Maximum instantaneous forward voltage (Note 1)	ES1LD	$I_F = 1\text{A}$ $T_J = 25^\circ\text{C}$	V_F	-	0.95	V
	ES1LG			-	1.3	
	ES1LJ			-	1.7	
Maximum reverse current @ rated V_R (Note 2)		$T_J = 25^\circ\text{C}$	I_R	-	5	μA
		$T_J = 125^\circ\text{C}$		-	100	μA
Junction capacitance	ES1LD	1 MHz, $V_R = 4.0\text{V}$	C_J	16	-	pF
	ES1LG			18		
	ES1LJ			18		
Reverse recovery time		$I_F = 0.5\text{A}$ $I_R = 1.0\text{A}$ $I_{RR} = 0.25\text{A}$	t_{rr}	-	35	ns

Notes:

1. Pulse test with $PW = 0.3\text{ ms}$
2. Pulse test with $PW = 30\text{ ms}$

ORDERING INFORMATION

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX *	PACKAGE	PACKING
ES1Lx (Note 1)	H	R3	G	SMA	1,800 / 7" Plastic reel
		R2			7,500 / 13" Paper reel
		M2			7,500 / 13" Plastic reel
		F3		1,800 / 7" Plastic reel	
		F2		7,500 / 13" Paper reel	
		F4		7,500 / 13" Plastic reel	
	N/A	E3		Clip SMA	1,800 / 7" Plastic reel
					7,500 / 13" Plastic reel

Note 1: "x" defines voltage from 200V (ES1LD) to 600V (ES1LJ)

*: G is optional available.

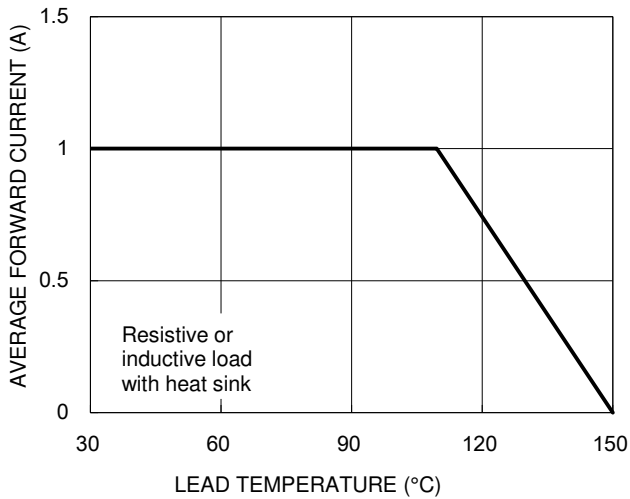
EXAMPLE:

EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
ES1LDHR3G	ES1LD	H	R3	G	AEC-Q101 qualified Green compound

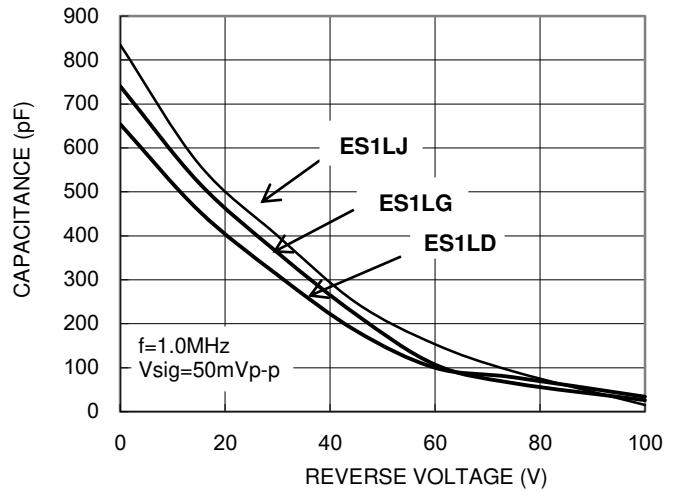
CHARACTERISTICS CURVES

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

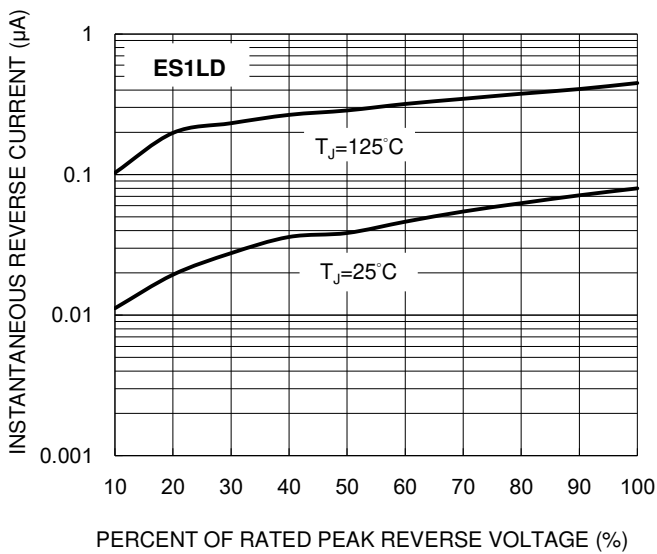
Forward Current Derating Curve



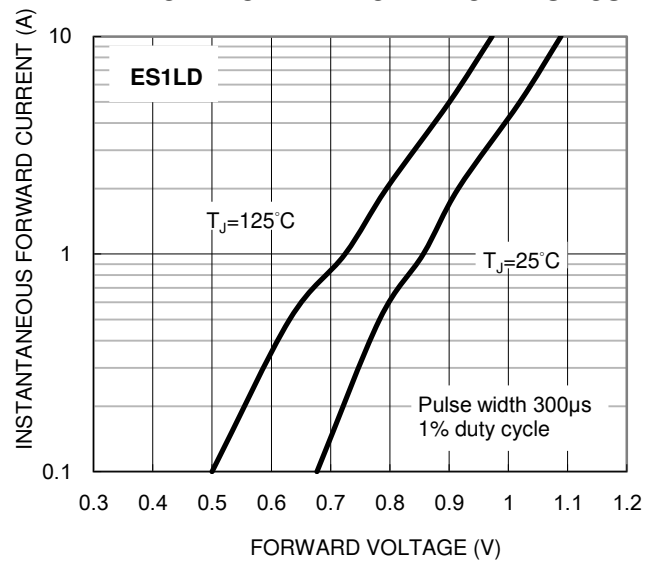
Typical Junction Capacitance



TYPICAL REVERSE CHARACTERISTICS

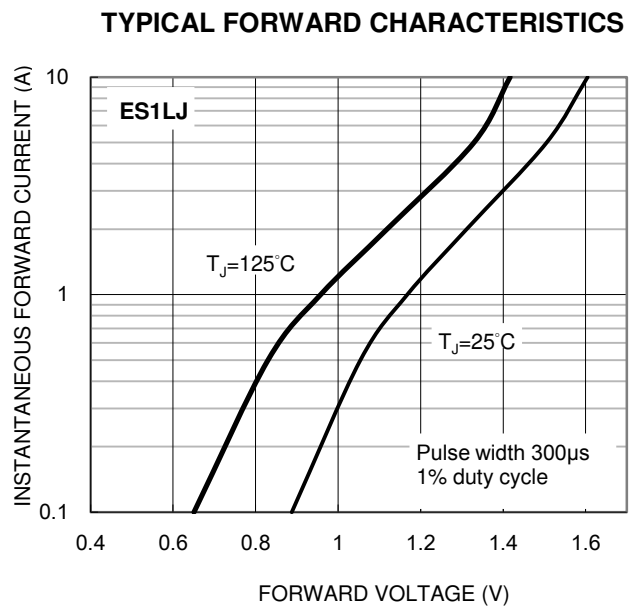
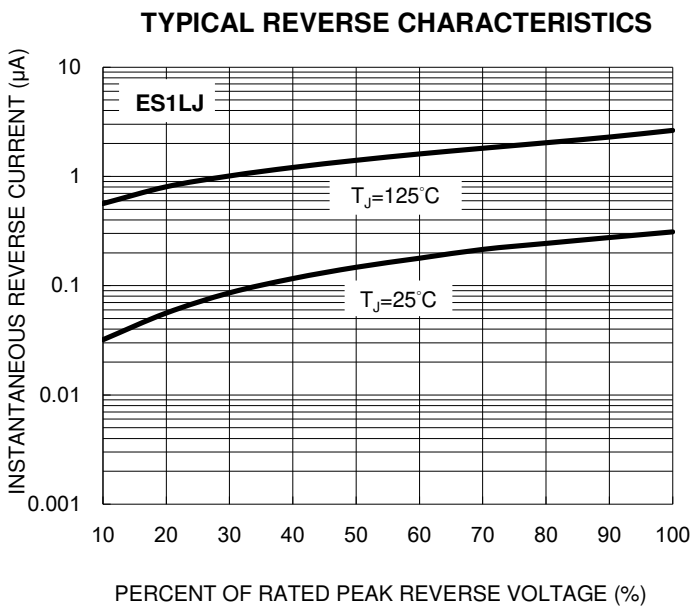
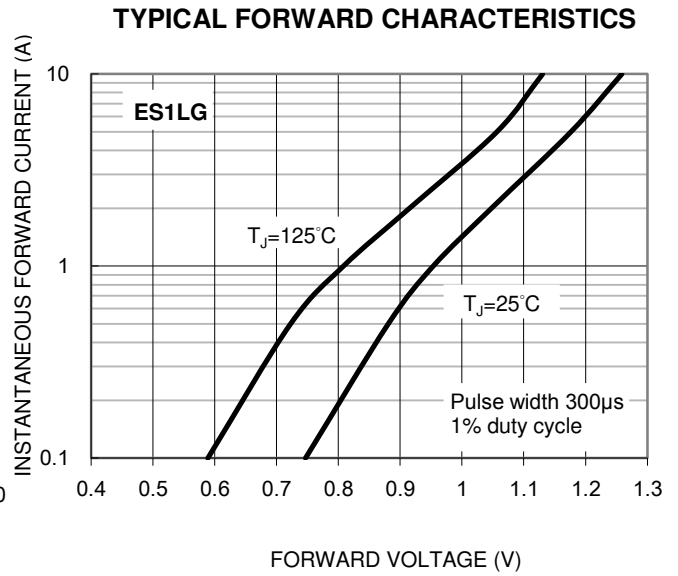
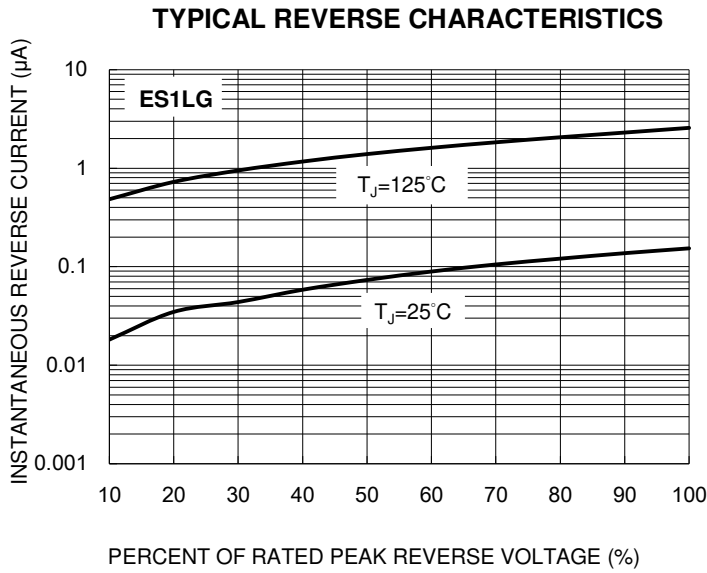


TYPICAL FORWARD CHARACTERISTICS



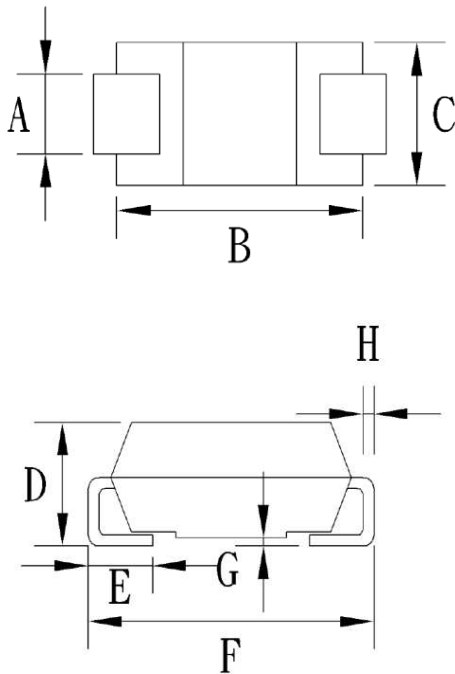
CHARACTERISTICS CURVES

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



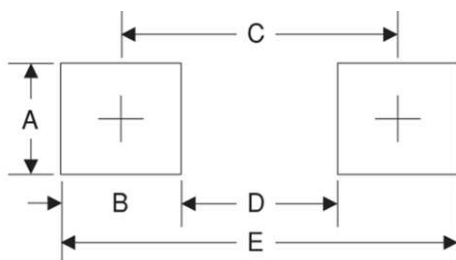
PACKAGE OUTLINE DIMENSIONS (Unit: Millimeters)

DO-214AC (SMA)



DIM	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.27	1.58	0.050	0.062
B	4.06	4.60	0.160	0.181
C	2.29	2.83	0.090	0.111
D	1.99	2.50	0.078	0.098
E	0.90	1.41	0.035	0.056
F	4.95	5.33	0.195	0.210
G	0.10	0.20	0.004	0.008
H	0.15	0.31	0.006	0.012

SUGGESTED PAD LAYOUT (Unit: Millimeters)



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 = Specific Device Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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