

1A, 50V - 600V Super Fast Surface Mount Rectifier

FEATURES

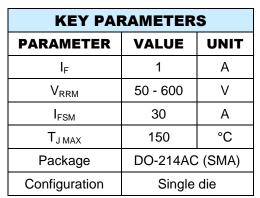
- Glass passivated chip junction
- Ideal for automated placement
- Super fast recovery time for high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- Lighting application
- Snubber
- Freewheeling application

MECHANICAL DATA

- Case: DO-214AC (SMA)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.060g (approximately)











DO-214AC (SMA)



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)										
PARAMETER	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	UNIT
Marking code on the device		ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	
Repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	105	140	210	280	350	420	V
Forward current	I _F				•	1				Α
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	30			А					
Junction temperature	TJ	- 55 to +150			°C					
Storage temperature	T _{STG}	- 55 to +150			°C					

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THERMAL PERFORMANCE					
PARAMETER	SYMBOL	ТҮР	UNIT		
Junction-to-lead thermal resistance	$R_{\Theta JL}$	35	°C/W		
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	85	°C/W		

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltors (1)	ES1A ES1B ES1C ES1D	- I _F = 1A, T _J = 25°C	V _F	-	0.95	V
Forward voltage ⁽¹⁾	ES1F ES1G			-	1.30	V
	ES1H ES1J			-	1.70	V
Reverse current @ rated V _R ⁽²⁾		T _J = 25°C		-	5	μA
		T _J = 125°C	- I _R	-	100	μA
ES1A ES1B ES1C ES1D		1MHz V = 4 0V		16	-	pF
Junction capacitance	ES1F ES1G ES1H ES1J	1MHz, V _R = 4.0V	CJ	18	-	pF
Reverse recovery time		$I_F = 0.5A, I_R = 1.0A,$ $I_{rr} = 0.25A$	t _{rr}	-	35	ns

Notes:

- 1. Pulse test with PW = 0.3ms
- 2. Pulse test with PW = 30ms

ORDERING INFORMATION				
ORDERING CODE ⁽¹⁾	PACKAGE	PACKING		
ES1x	DO-214AC (SMA)	7,500 / Tape & Reel		

Notes:

1. "x" defines voltage from 50V(ES1A) to 600V(ES1J)



CHARACTERISTICS CURVES

Fig.1 Forward Current Derating Curve

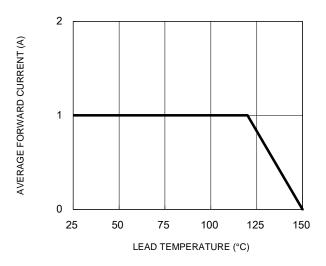


Fig.3 Typical Reverse Characteristics

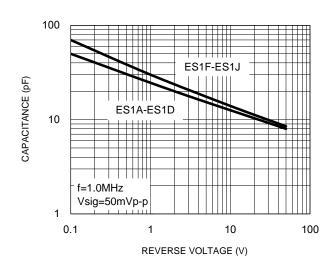
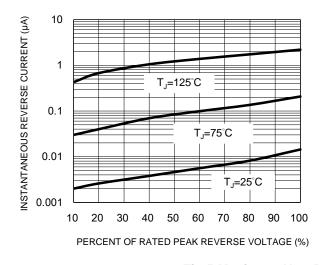


Fig.2 Typical Junction Capacitance

Fig.4 Typical Forward Characteristics



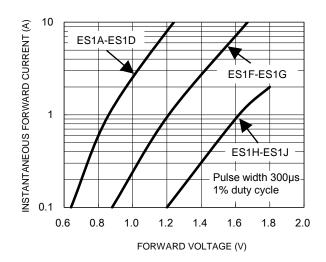
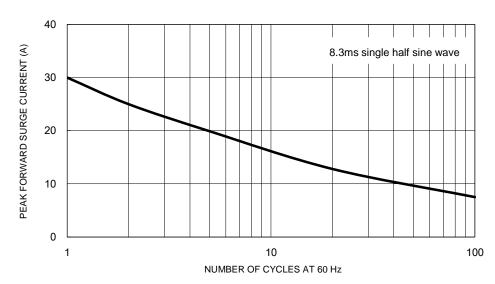


Fig.5 Maximum Non-Repetitive Forward Surge Current



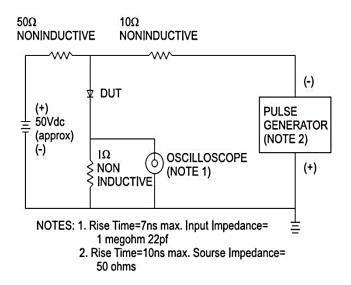


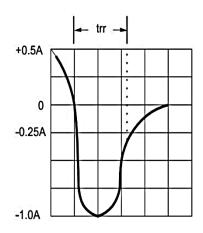
 $(T_A = 25^{\circ}C \text{ unless otherwise noted})$

CHARACTERISTICS CURVES

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

Fig.6 Reverse Recovery Time Characteristic and Test Circuit Diagram

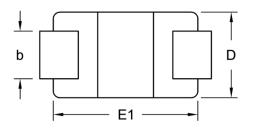


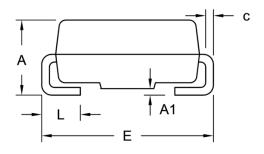




PACKAGE OUTLINE DIMENSIONS

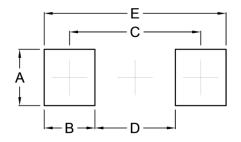
DO-214AC (SMA)





DIM.	Unit	(mm)	Unit (inch)		
Dilvi.	Min.	Max.	Min.	Max.	
Α	1.99	2.50	0.078	0.098	
A1	0.10	0.20	0.004	0.008	
b	1.27	1.58	0.050	0.062	
С	0.15	0.31	0.006	0.012	
D	2.29	2.83	0.090	0.111	
E	4.95	5.33	0.195	0.210	
E1	4.06	4.60	0.160	0.181	
L	0.90	1.41	0.035	0.056	

SUGGESTED PAD LAYOUT



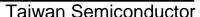
Symbol	Unit (mm)	Unit (inch)
Α	1.68	0.066
В	1.52	0.060
С	3.93	0.155
D	2.41	0.095
E	5.45	0.215

MARKING DIAGRAM



= Marking Code P/N = Green Compound G

ΥW = Date Code F = Factory Code





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