

2A, 200V-600V Super Fast Recovery Surface Mount Rectifier

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low reverse leakage
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switch Mode Power Supply
- Inverters and Converters
- Free Wheeling diodes

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 1 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.06 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	2	A
V_{RRM}	200-600	V
I_{FSM}	50	A
$T_{J\ MAX}$	150	°C
Package	DO-214AC (SMA)	



DO-214AC (SMA)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	ES2DA-T	ES2GA-T	ES2JA-T	UNIT
Marking code on the device		ES2DA	ES2GA	ES2JA	V
Repetitive peak reverse voltage	V_{RRM}	200	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	280	420	V
DC blocking voltage	V_{DC}	200	400	600	V
Forward current	I_F	2			A
Surge peak forward current single half sine-wave superimposed on rated load per diode	8.3 ms at $T_A = 25^\circ\text{C}$	50			A
	1.0 ms at $T_A = 25^\circ\text{C}$				A
Junction temperature	T_J	-55 to +150			°C
Storage temperature	T_{STG}	-55 to +150			°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance per diode	$R_{\theta JL}$	14	°C/W
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	86	°C/W
Junction-to-case thermal resistance per diode	$R_{\theta JC}$	23	°C/W

Thermal Performance Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	ES2DA-T	I _F = 1A, T _J = 25°C	V _F	0.83	-	V
		I _F = 2A, T _J = 25°C		0.91	0.95	V
		I _F = 1A, T _J = 125°C		0.69	-	V
		I _F = 2A, T _J = 125°C		0.78	0.91	V
	ES2GA-T	I _F = 1A, T _J = 25°C		0.97	-	V
		I _F = 2A, T _J = 25°C		1.09	1.25	V
		I _F = 1A, T _J = 125°C		0.78	-	V
		I _F = 2A, T _J = 125°C		0.92	1.05	V
	ES2JA-T	I _F = 1A, T _J = 25°C		1.23	-	V
		I _F = 2A, T _J = 25°C		1.44	1.7	V
		I _F = 1A, T _J = 125°C		0.92	-	V
		I _F = 2A, T _J = 125°C		1.12	1.26	V
Reverse current @ rated V _R per diode ⁽²⁾		T _J = 25°C	I _R	-	5	μA
		T _J = 125°C		-	100	μA
Reverse recovery time		I _F =0.5A,I _R =1.0A, I _{rr} =0.25A	t _{rr}	-	35	ns
Junction capacitance per diode	ES2DA-T	1 MHz, V _R =4.0V	C _J	26	-	pF
	ES2GA-T			19	-	pF
	ES2JA-T			11	-	pF

Notes:

(1) Pulse test with $PW=0.3\text{ ms}$

(2) Pulse test with $PW=30\text{ ms}$

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
ES2XA-T R3G ⁽¹⁾	SMA	1,800 / 7" Plastic reel
ES2XA-T M2G ⁽¹⁾	SMA	7,500 / 13" Plastic reel
ES2XA-T R2G ⁽¹⁾	SMA	7,500 / 13" Paper reel

Notes:

(1) "X" defines voltage from 200V(ES2DA-T) to 600V(ES2JA-T)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

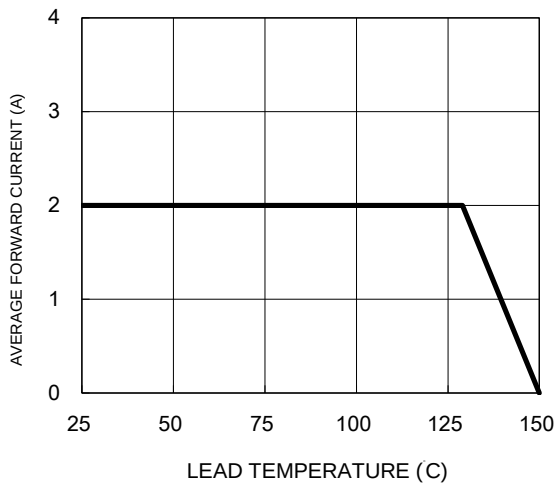


Fig.2 Typical Junction Capacitance

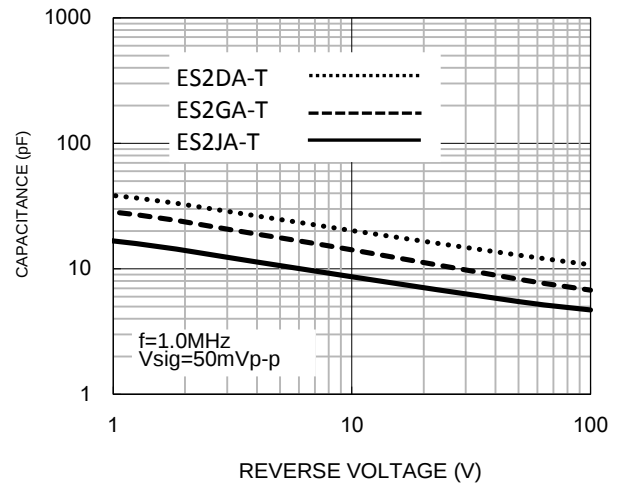


Fig.3 Typical Reverse Characteristics

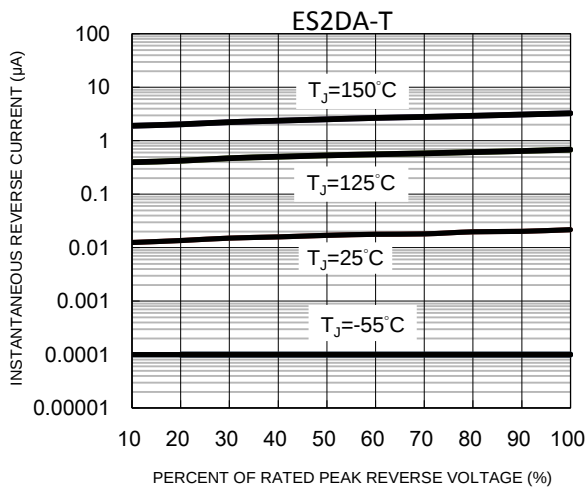


Fig.4 Typical Forward Characteristics

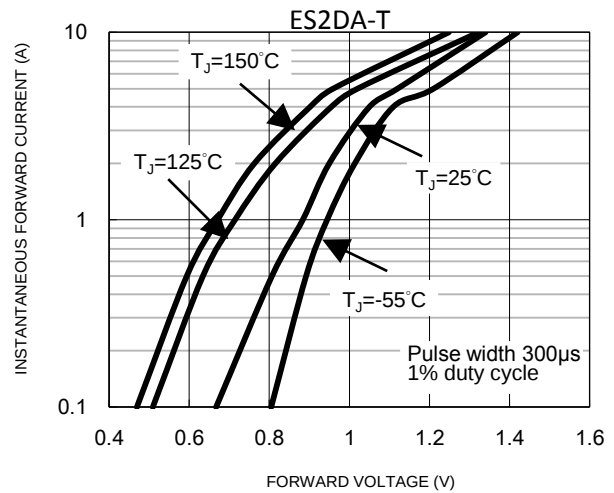


Fig.5 Typical Reverse Characteristics

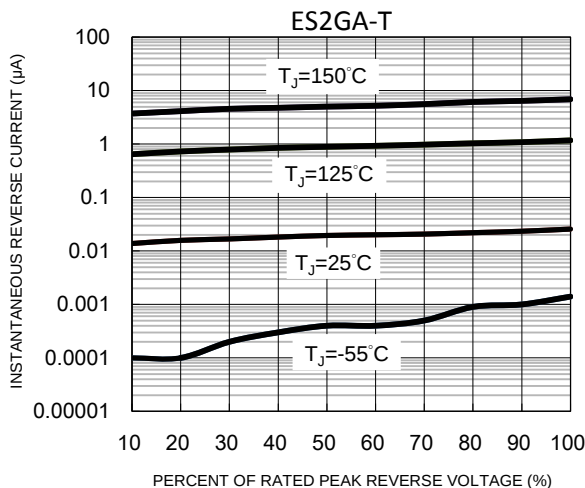


Fig.6 Typical Forward Characteristics

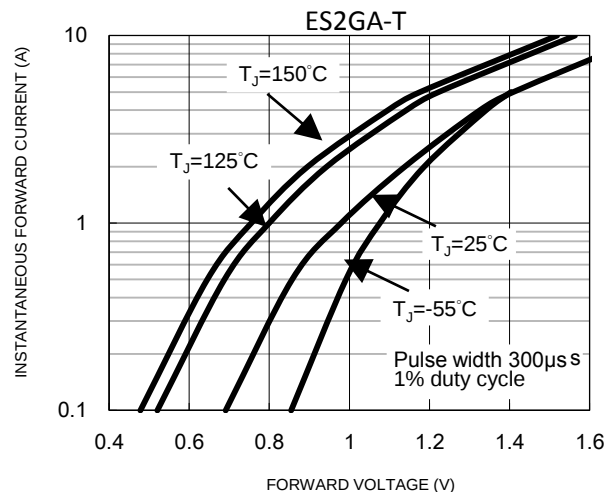


Fig.7 Typical Reverse Characteristics

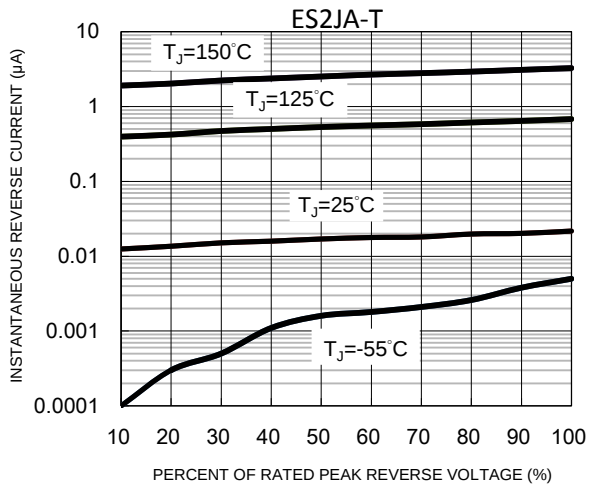


Fig.8 Typical Forward Characteristics

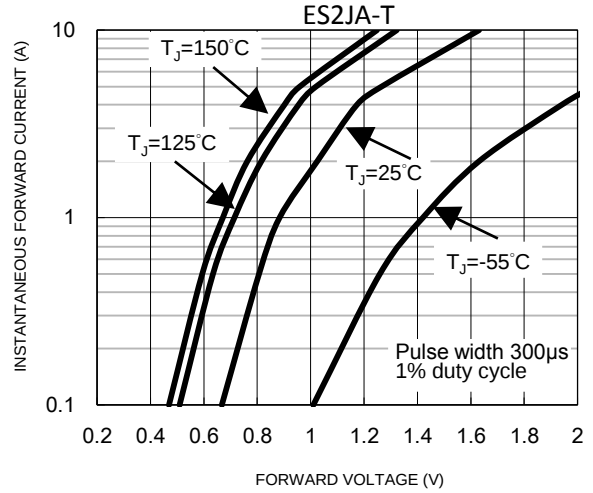
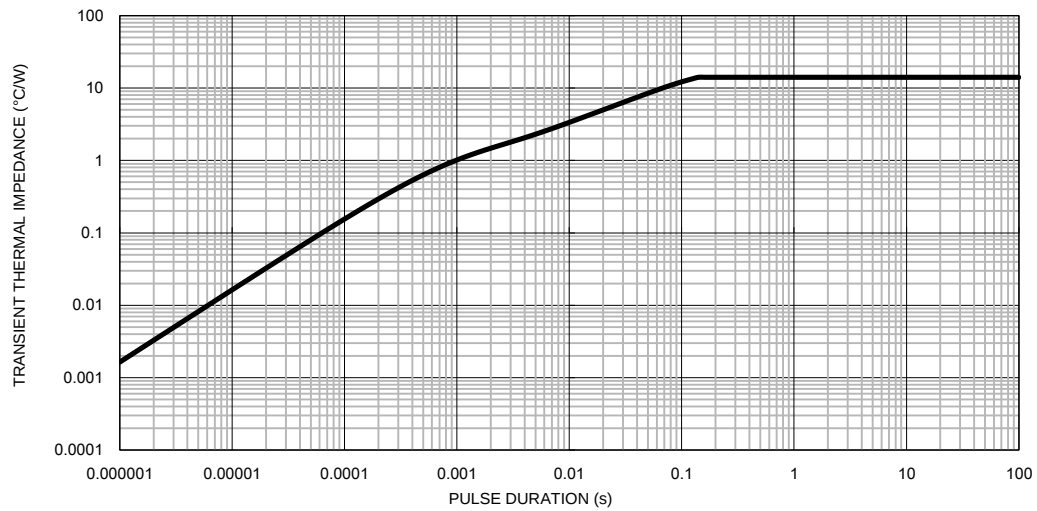
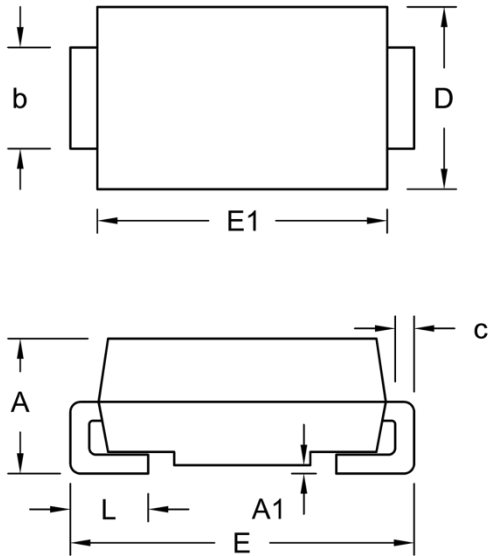


Fig.9 Typical Transient Thermal Impedance



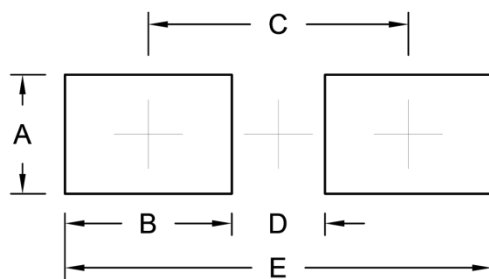
PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.70	2.30	0.067	0.091
A1	0.05	0.20	0.002	0.008
b	1.20	1.80	0.047	0.071
c	0.15	0.41	0.006	0.016
D	2.40	3.00	0.094	0.118
E	4.80	5.40	0.189	0.213
E1	4.00	4.60	0.157	0.181
L	0.75	1.60	0.030	0.063

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.82	0.072
B	2.56	0.101
C	3.99	0.157
D	1.43	0.056
E	6.55	0.258

MARKING DIAGRAM



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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.



**Стандарт
Электрон
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331