4A,400V Superfast Rectifier

Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260℃/10 seconds

RoHS COMPLIANT

eSGC (TO-277B)

Applications

For use in secondary rectification and freewheeling for superfast switching speeds of converters in consumer applications.

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)			
Parameter	**Symbol**	**ES4HGW**	**Unit**
Maximum repetitive peak reverse voltage	V_{RRM}	400	V
Maximum RMS voltage	V_{RMS}	280	V
Maximum DC blocking voltage	V_{DC}	400	V
Maximum average forward rectified current	$I_{F(AV)}$	4	A
Peak forward surge current,8.3ms single half sine-wave superimposed on rated load	I_{FSM}	100	A
Operating junction temperature range	T_J	-55 to +175	°C
Storage temperature range	T_{STG}	-55 to +175	°C

Thermal-Mechanical Specifications (T_A=25°C unless otherwise noted)			
Parameter	**Symbol**	**Typ**	**Unit**
Thermal Resistance, Junction to Ambient	R_{thJA}	40	°C /W
Thermal Resistance, Junction to Case	R_{thJC}	15	°C /W
Thermal Resistance, Junction to Lead	R_{thJL}	7	°C /W

Electrical Specifications(T_A=25°C unless otherwise noted)				
Parameter	**Symbol**	**Test Conditions**	**ES4HGW**	**Unit**
Maximum forward drop voltage	V_F	I_F=4A	0.875	V
Maximum reverse leakage current @V_R	I_R	T_J =25°C	5	uA
Typical junction capacitance	C_J	V_R=4.0V, f=1MHZ	529	pF
Maximum reverse recovery time	trr	I_F=0.5A, I_R=1.0A, I_{RR}=0.25A	50	ns

Note：

1.Mounted on copper pad area of 30 x 30mm to each terminal.

Ratings and Characteristics Curves (T_A = 25°C unless otherwise noted)

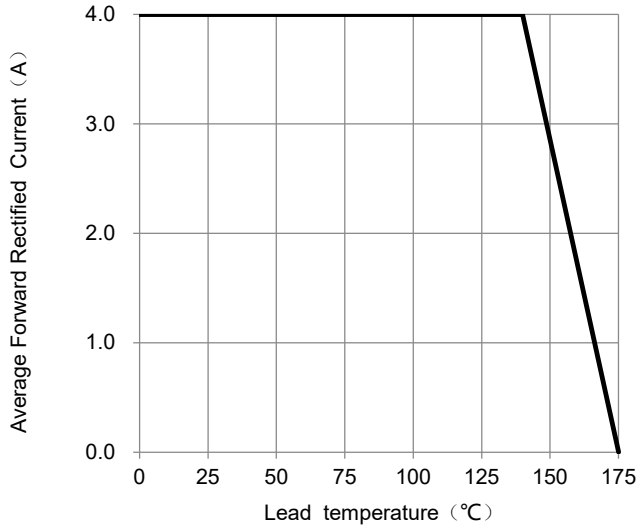


Fig.1 –Forward Current Derating Curve

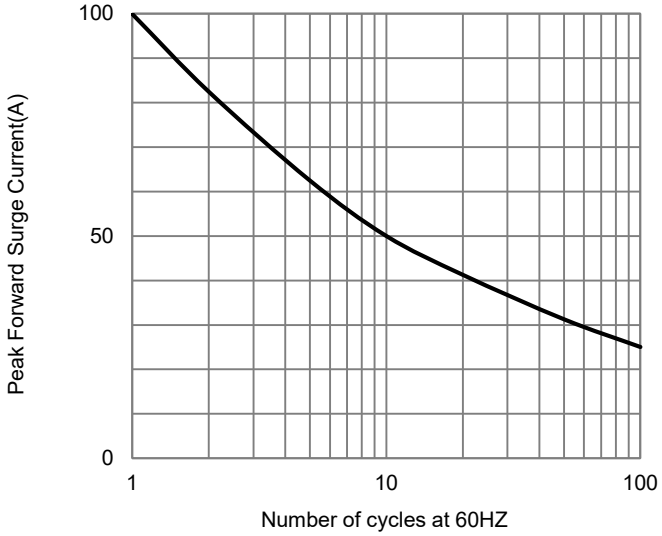


Fig.2 – Maximum Non-Repetitive Surge Current

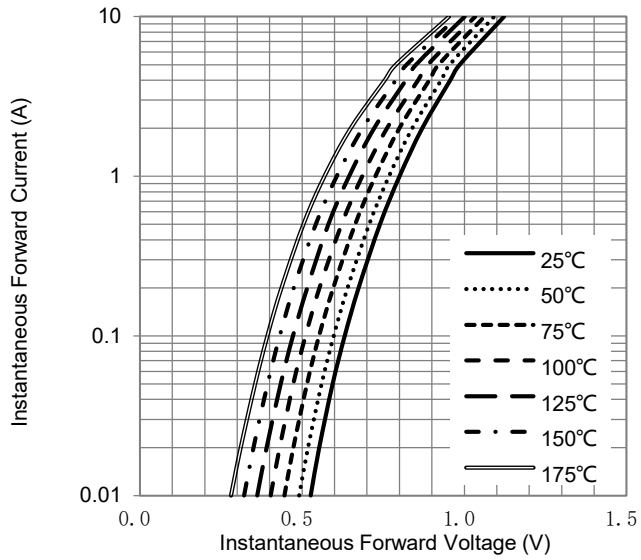


Fig.3 –Typical Forward Voltage Characteristics

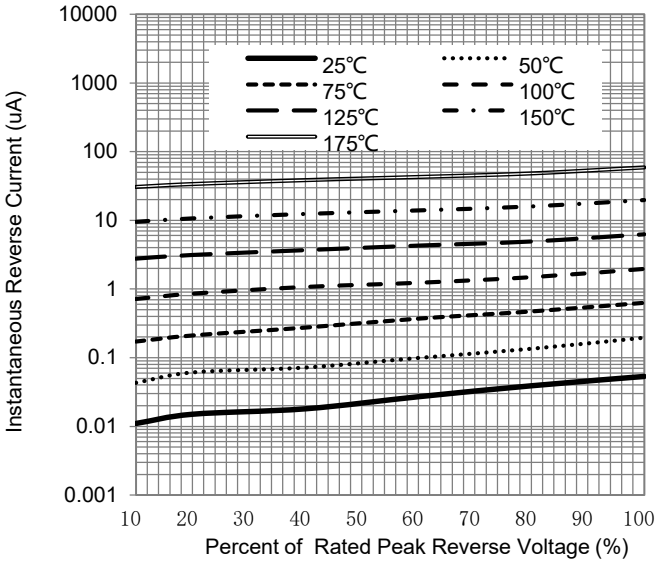


Fig.4 –Typical Reverse Current Characteristics

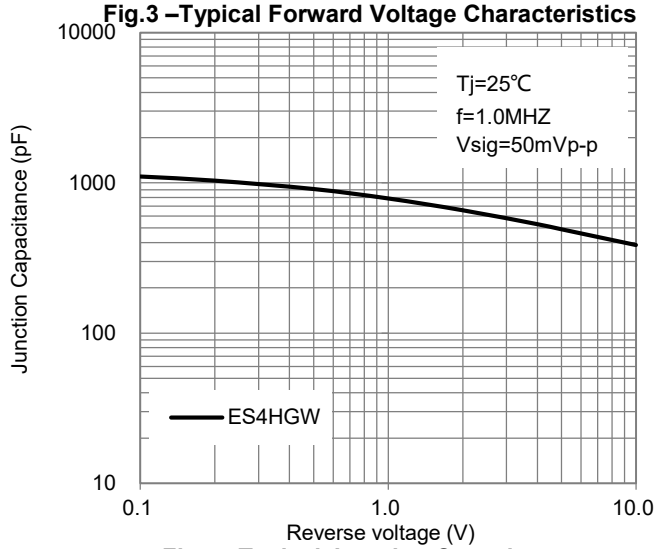
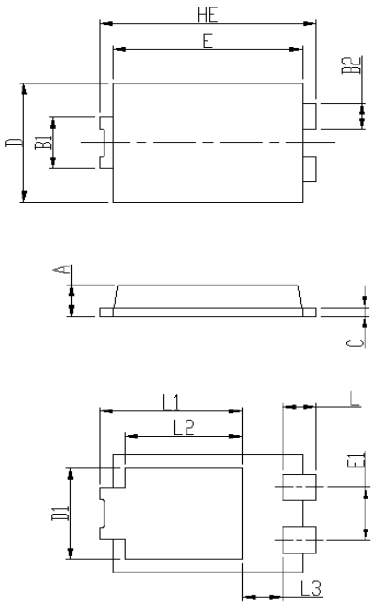


Fig.5 –Typical Junction Capacitance

Package Outline Dimensions

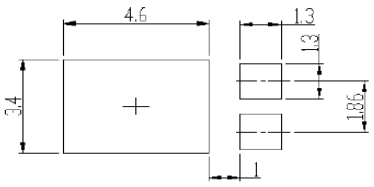
in inches (millimeters)

eSGC (TO-277B)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
HE	6.4	6.6	0.252	0.260
E	5.6	5.8	0.220	0.228
D	4.1	4.3	0.161	0.169
B1	1.7	1.9	0.067	0.075
B2	0.8	1	0.031	0.039
A	1.05	1.2	0.041	0.047
C	0.3	0.4	0.012	0.016
L	0.85	1.1	0.033	0.043
L1	4.2	4.4	0.165	0.173
L2	3.52 Typ.		0.139 Typ.	
L3	1.1	1.4	0.043	0.055
D1	3	3.3	0.118	0.130
E1	1.86 Typ.		0.073 Typ.	

Soldering footprint



Disclaimers

These materials are intended as a reference to assist our customers in the selection of the Suzhou Good-Ark product best suited to the customer's application; they do not convey any license under any intellectual property rights, or any other rights, belonging to Suzhou Good-Ark Electronics Co., Ltd.or a third party.

Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, or infringement of any third-party's rights, originating in the use of any product data, diagrams, charts, programs, algorithms, or circuit application examples contained in these materials.

All information contained in these materials, including product data, diagrams, charts, programs and algorithms represents information on products at the time of publication of these materials, and are subject to change by Suzhou Good-Ark Electronics Co., Ltd. without notice due to product improvements or other reasons. It is therefore recommended that customers contact Suzhou Good-Ark Electronics Co., Ltd. or an authorized Suzhou Good-Ark Electronics Co., Ltd. for the latest product information before purchasing a product listed herein. The information described here may contain technical inaccuracies or typographical errors. Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, liability, or other loss rising from these inaccuracies or errors. Please also pay attention to information published by Suzhou Good-Ark Electronics Co., Ltd. by various means, including our website home page.
(http://www.goodark.com)

When using any or all of the information contained in these materials, including product data, diagrams, charts, programs, and algorithms, please be sure to evaluate all information as a total system before making a final decision on the applicability of the information and products. Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, liability or other loss resulting from the information contained herein.

The prior written approval of Suzhou Good-Ark Electronics Co., Ltd. is necessary to reprint or reproduce in whole or in part these materials.

Please contact Suzhou Good-Ark Electronics Co., Ltd. or an authorized distributor for further details on these materials or the products contained herein.