

## 4A,600V 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°C/10 seconds



### Applications

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

Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	ES4UJW	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	600	V
Maximum RMS voltage	V <sub>RMS</sub>	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	600	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	4	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150	A
Operating junction temperature range	T <sub>J</sub>	-55 to +175	°C
Storage temperature range	T <sub>STG</sub>	-55 to +175	°C

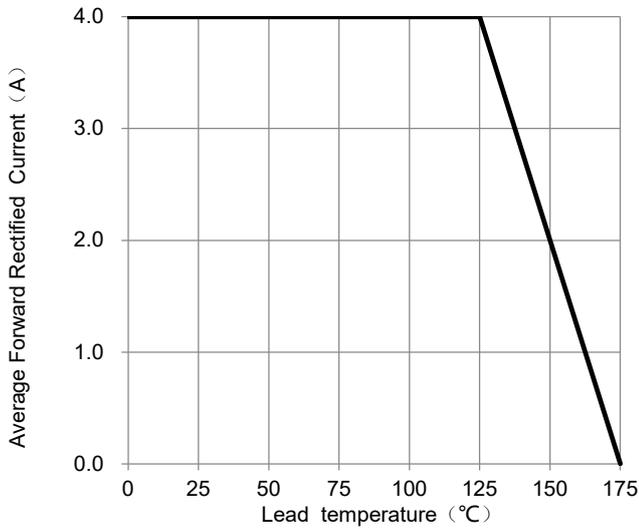
Thermal-Mechanical Specifications (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R <sub>thJA</sub>	40	°C /W
Thermal Resistance, Junction to Case	R <sub>thJC</sub>	15	°C /W
Thermal Resistance, Junction to Lead	R <sub>thJL</sub>	7	°C /W

<b>Electrical Specifications</b> ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)				
Parameter	Symbol	Test Conditions	ES4UJW	Unit
Maximum forward drop voltage	$V_F$	$I_F=4\text{A}$	1.5	V
Maximum reverse leakage current @ $V_R$	$I_R$	$T_J =25^{\circ}\text{C}$	5	$\mu\text{A}$
Typical junction capacitance	$C_J$	$V_R=4.0\text{V}$ , $f=1\text{MHZ}$	65	pF
Maximum reverse recovery time	$t_{rr}$	$I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$	35	ns

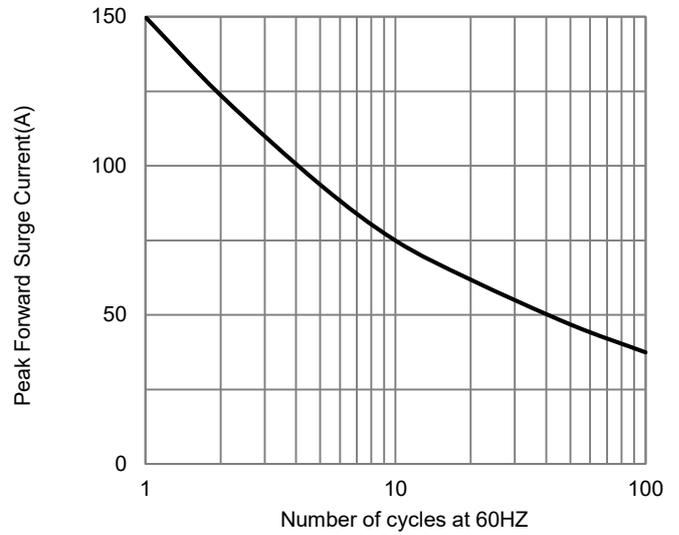
Note:

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

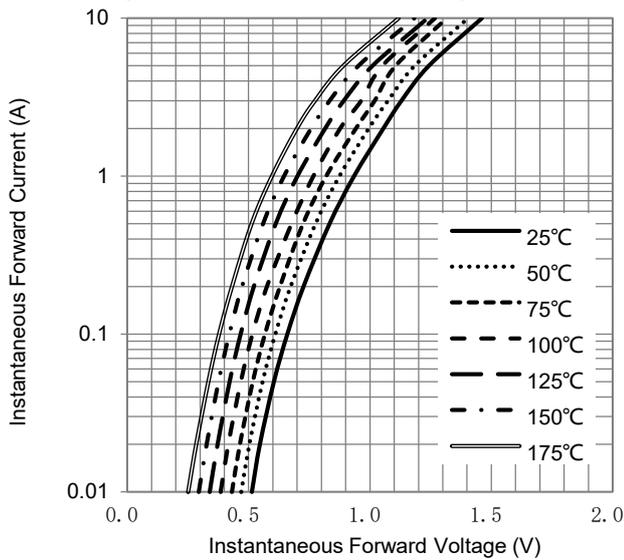
## Ratings and Characteristics Curves (T<sub>A</sub> = 25°C unless otherwise noted)



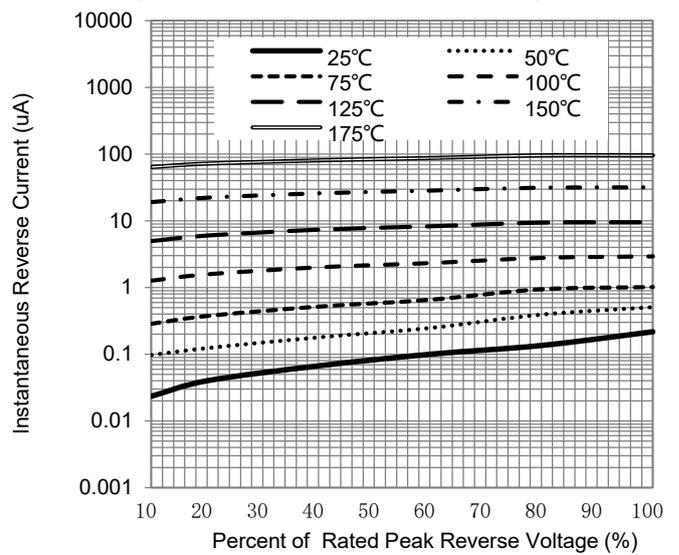
**Fig.1 - Forward Current Derating Curve**



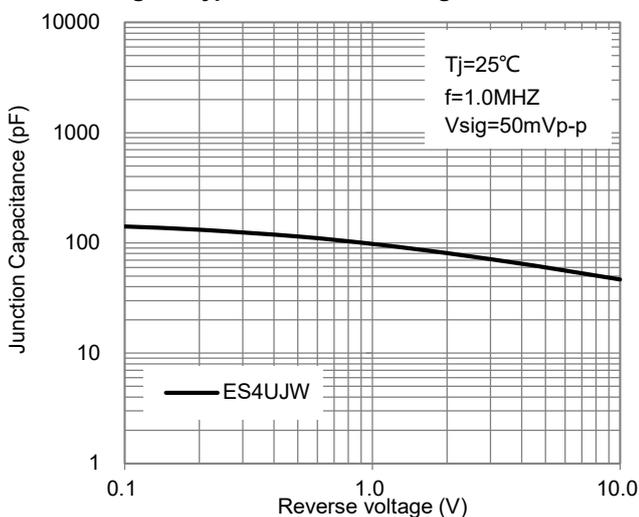
**Fig.2 - Maximum Non-Repetitive Surge Current**



**Fig.3 - Typical Forward Voltage Characteristics**



**Fig.4 - Typical Reverse Current Characteristics**

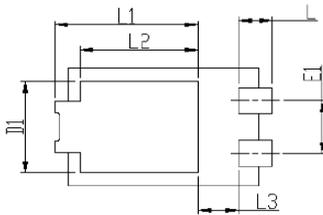
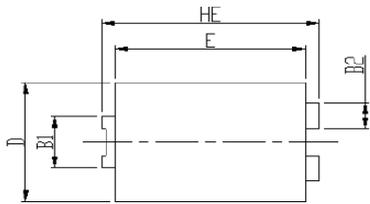


**Fig.5 - Typical Junction Capacitance**

## Package Outline Dimensions

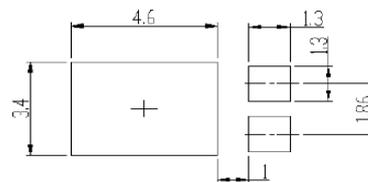
in inches (millimeters)

### 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



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