

3A,50-1000V Standard Rectifiers

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



RoHS
COMPLIANT



eSGC (TO-277B)

Applications

For use of general purpose rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	SGC0301A	SGC0302A	SGC0303A	SGC0304A	SGC0305A	SGC0306A	SGC0307A	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	I _{F(AV)}	3							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	80							A
Operating junction temperature range	T _J	-55 to +150							°C
Storage temperature range	T _{STG}	-55 to +150							°C

Thermal-Mechanical Specifications (T_A=25°C unless otherwise noted)

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	40	°C /W
Thermal Resistance, Junction to Case	R _{θJC}	15	°C /W
Thermal Resistance, Junction to Lead	R _{θJL}	7	°C /W



SGC0301A thru SGC0307A

GOOD-ARK Electronics

Electrical Specifications (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	SGC0301A	SGC0302A	SGC0303A	SGC0304A	SGC0305A	SGC0306A	SGC0307A	Unit
Forward Drop Voltage	V _F	I _F =3A				1.1				V
Reverse leakage current @V _R	I _R	T _J =25°C				10				uA
		T _J =125°C				250				
Typical junction capacitance	C _J	4.0 V 1 MHz				25				pF
Typical reverse recovery time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A				3				uS

Note:

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

Ratings and Characteristics Curves

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

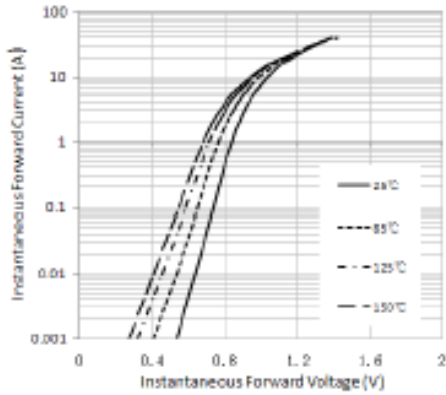


Figure 1. Typical Instantaneous Forward Characteristics

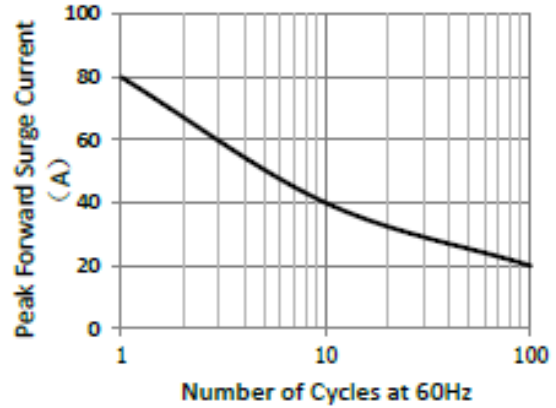


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

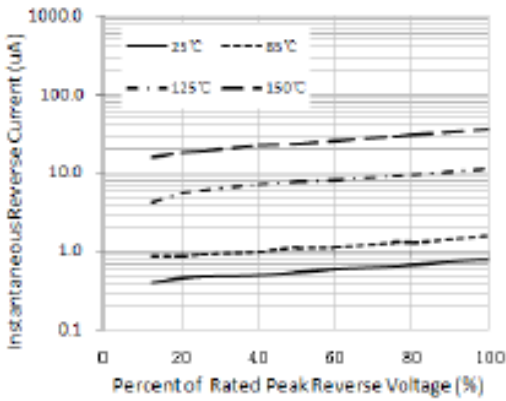


Figure 3. Typical Reverse Characteristics

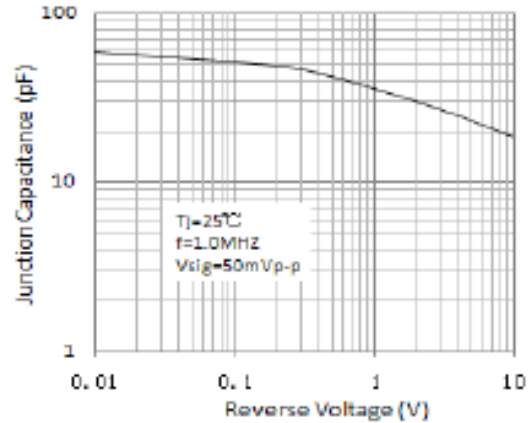


Figure 4. Typical Junction Capacitance

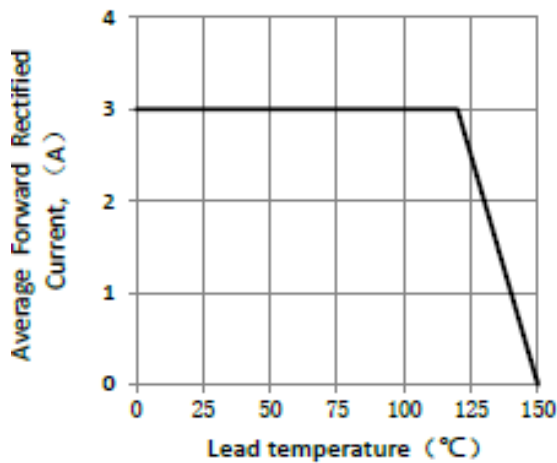
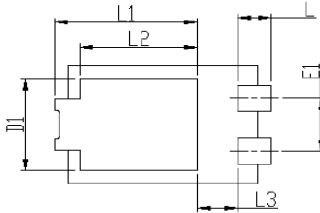
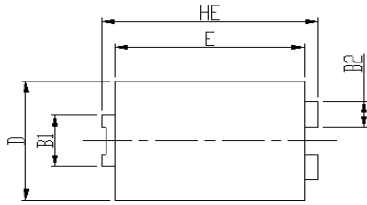


Figure 5. Forward Current Derating Curve

Package Outline Dimensions

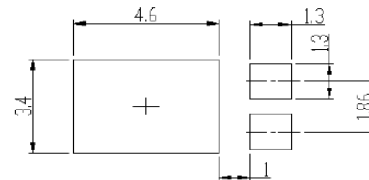
in inches (millimeters)

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



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.13	Modify document format
Rev.C	2023.12.29	Modify package name

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