OM SENI

GS1A-GS1M
General-Purpose Rectifiers

Features

·1 AIF(Av)Current Rating
·Glass Passivated
·Low Leakage:
-1μA Maximum at 25℃
-50μA Maximum at 125℃
·Fast Response:1.8μs(Typical)
·30 ASurge Rating
·50 to 1000 VReverse Voltage Ratings
·6.6 pF Typical Capacitance
·RoHS Compliant
·UL Certified,UL#E258596

Description

In the world of commodity rectifiers,Fairchild Semiconductor's S1 family of 1 A,P-I-N,SMA rectifiers stand out for their optimized low leakage,low capacitance,and fast response time.This was achieved while maintaining the industry standard VFmax of 1.1Vat 1 A and a 30 A surge rating.In today's world,where system power efficiency is a critical differentiating feature,these advantages can be leveraged to support those higher efficiency goals.

SMAIDO-214AC
cOLOR BAND DENOTESCATHODE

Ordering Information

Part Number	Marking	Package	Packing Method
GS1A	GS1A	DO-214AC(SMA)	Tape and Reel
GS1B	GS1B	DO-214AC(SMA)	Tape and Reel
GS1D	GS1D	DO-214AC(SMA)	Tape and Reel
GS1G	GS1G	DO-214AC(SMA)	Tape and Reel
GS1J	GS1J	DO-214AC(SMA)	Tape and Reel
GS1K	GS1K	DO-214AC(SMA)	Tape and Reel
GS1M	GS1M	DO-214AC(SMA)	Tape and Reel

OM SENI

Absolute Maximum Ratings(1)

Stresses exceeding the absolute maximum ratings may damage the device.The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended.In addition,extended exposure to stresses above the recommended operating conditions may affect device reliability.The absolute maximum ratings are stress ratings only.Values are at TA=25℃ unless otherwise noted.

Symbol	Parameter	Value							Unit
		GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	G1SM	
VRRM	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
F(AV)	Average Rectified Forward Current at TA=100℃	1.0							A
IsM	Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	30							A
TsTG	Storage Temperature Range	-55 to+150							℃
TJ	Operating Junction Temperature	-55 to+150							℃

Note:

1.These ratings are limiting values above which the serviceability of any semiconductor device maybe impaired.

Thermal Characteristics

Symbol	Parameter	Max.	Unit
Po	Power Dissipation	1.4	W
RoJA	Thermal Resistance,Junction to Ambient(²)	85	℃W
RoJA	Thermal Resistance,Junction to Ambient③	170	℃/W
ψ	Junction-Lead thermal characteristics(③)	25	℃/W

Notes:

2.Device mounted on FR-4 PCB,land pattern size:25 mm²(5×5 mm).

3.Device mounted on FR-4 PCB,land pattern size:4.6375 mm²(2.65×1.75 mm).

Electrical Characteristics

Values are at TA=25℃ unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
VF	Forward Voltage	IF=1.0A			1.1	V
t	Reverse Recovery Time	F=0.5 A,Ik=1.0 A, =0.25A		1.8		μs
IR	Reverse Current at Rated VR	TA=25℃			1.0	μA
		TA=125℃			50	
CT	JunctionCapacitance	VR=4.0V,f=1.0MHz		6.6		pF

OM SENI

Typical Performance Characteristics

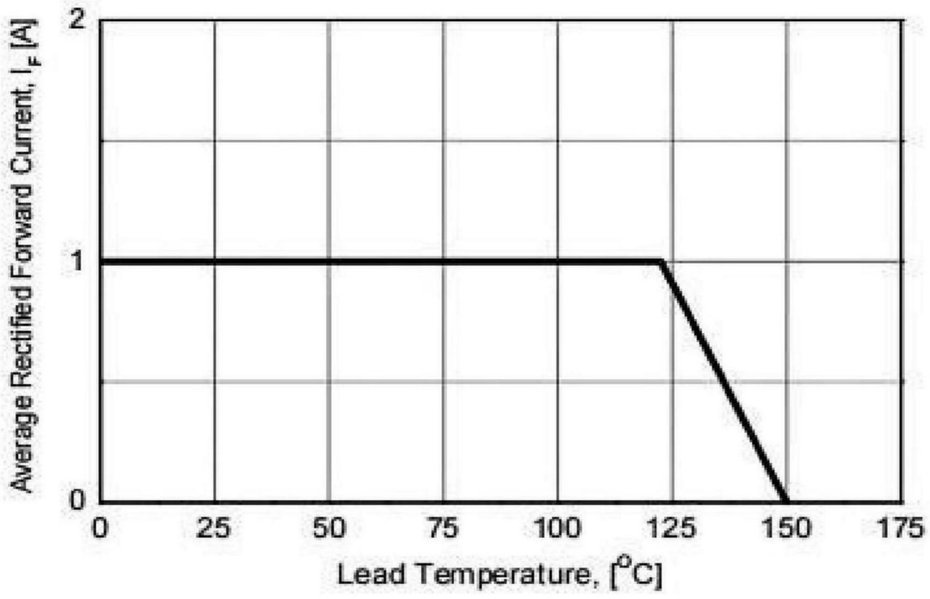


Figure 1. Forward Current Derating Curve

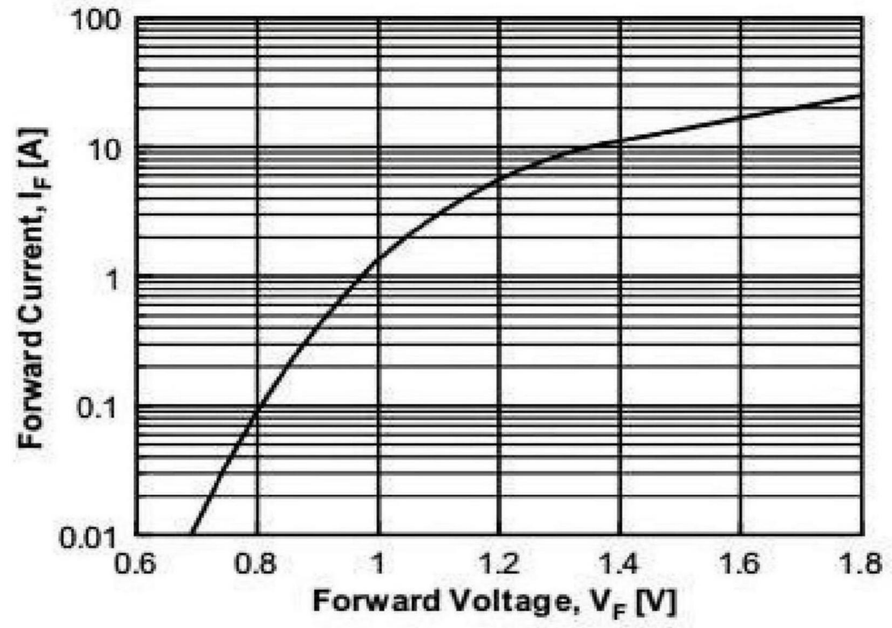


Figure 2. Forward Voltage Characteristics

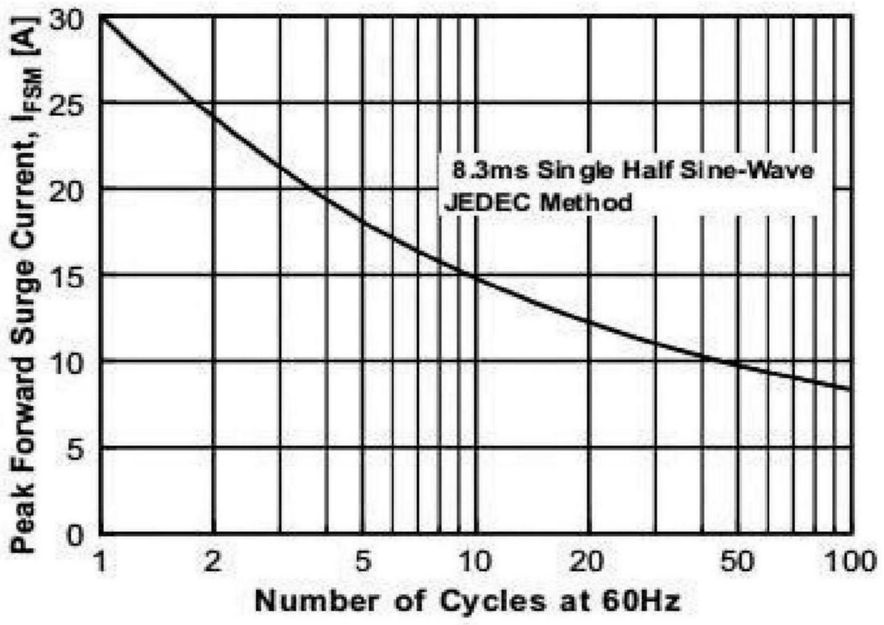


Figure 3. Non-Repetitive Surge Current

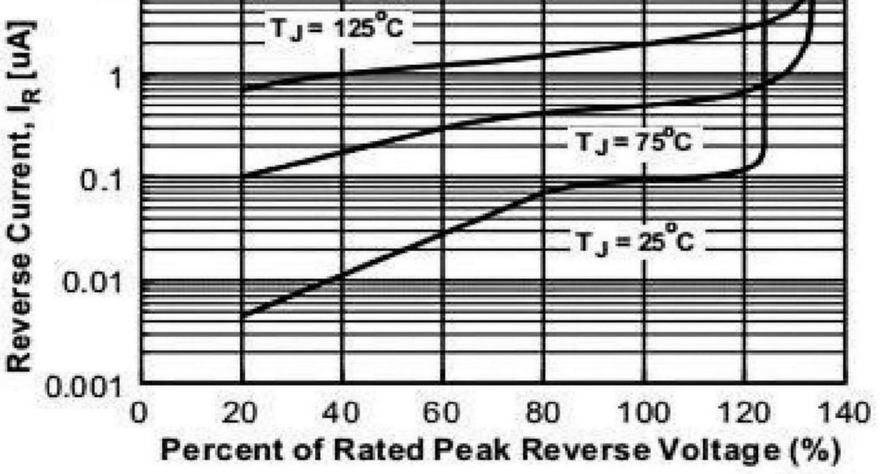


Figure 4. Reverse Current vs. Reverse Voltage

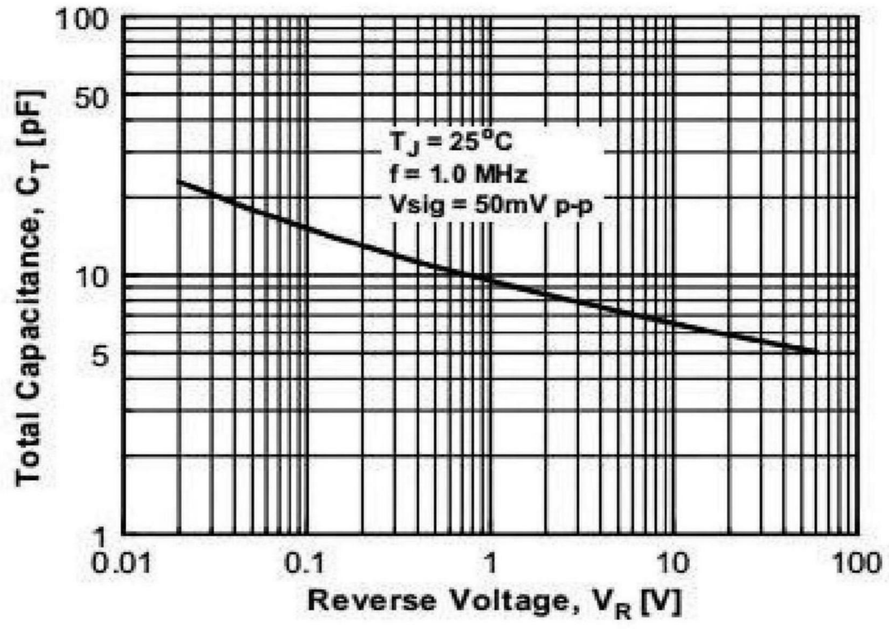


Figure 5. Total Capacitance

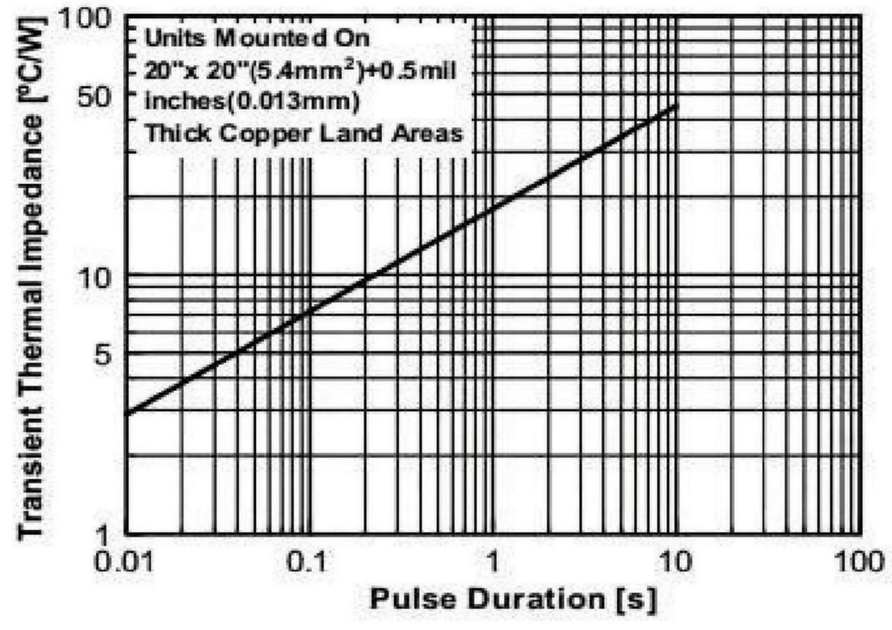


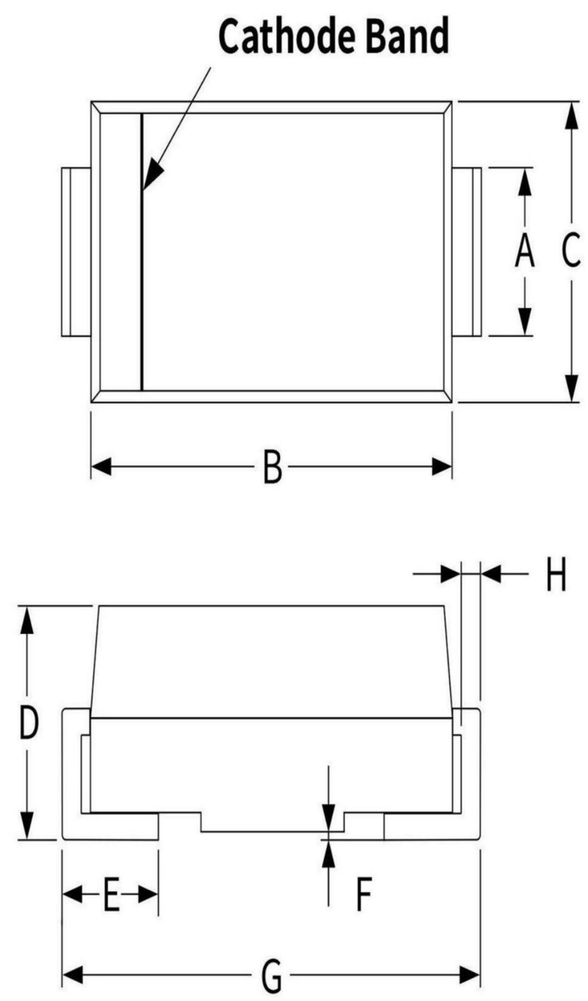
Figure 6. Thermal Impedance Characteristics

OM SENI

Ordering Information

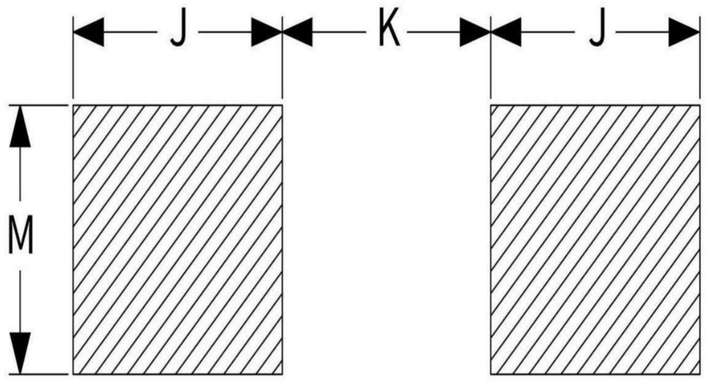
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMA	R2	0.07	5000	10000	50000	11''
SMA	R3	0.07	7500	15000	75000	13''

Package Outline Dimensions (SMA/DO-214AC)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.25	1.65	0.049	0.065
B	3.95	4.65	0.156	0.183
C	2.35	2.85	0.093	0.112
D	1.98	2.41	0.078	0.095
E	0.76	1.52	0.030	0.060
F	-	0.203	-	0.008
G	4.70	5.30	0.185	0.209
H	0.15	0.31	0.006	0.012

Suggested Pad Lavout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	1.70	-	0.067	-
J	2.10	-	0.082	-
K	-	2.30	-	0.090