

GSDSS12W Series

Surface Mount Schottky Rectifiers

Product Description

Reverse Voltage 20V to 200V Forward Current 1.0A

Features

- Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity diodes in surface mount applications
- Schottky barrier junction, majority carrier conduction
- Guard ring for stress protection
- Low forward voltage drop
- High current capability
- High surge capability
- High reliability
- Lead(Pb)-Free

Mechanical Data

- Case : Molded plastic, SMA(W) Package
- Epoxy meets flammability requirements per UL 94V-0
- Terminals : Axial leads, solderable per MIL-STD-750, method 2026 guaranteed
- Polarity: Color band denotes cathode end

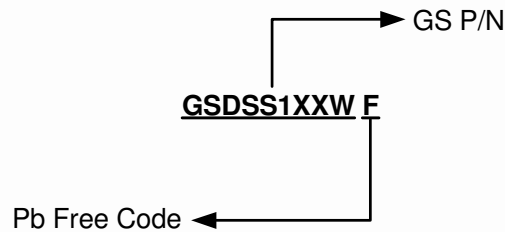
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Packages



SMA(W)
Color Band Denotes CATHODE

Ordering Information



Part Number	Package	Quantity
GSDSS12WF Series	SMA(W)	5000 PCS

Marking Information

P/N	Part Marking	Package
GSDSS12WF	SS12	SMA(W)
GSDSS13WF	SS13	SMA(W)
GSDSS14WF	SS14	SMA(W)
GSDSS15WF	SS15	SMA(W)
GSDSS16WF	SS16	SMA(W)
GSDSS18WF	SS18	SMA(W)
GSDSS110WF	SS110	SMA(W)
GSDSS115WF	SS115	SMA(W)
GSDSS120WF	SS120	SMA(W)

Electrical Characteristics

(Rating 25°C Ambient Temperature Unless Otherwise Specified.)

Symbol	Conditions	GSDSS12WF	GSDSS13WF	GSDSS14WF	Unit
V_{RRM}	Maximum Recurrent Peak Reverse Voltage	20	30	40	V
V_{RMS}	Maximum RMS Voltage	14	21	28	V
V_{DC}	Maximum DC Blocking Voltage	20	30	40	V
V_F	Maximum Instantaneous At 1.0A DC	0.55	0.55	0.55	V
I_R	Maximum Reverse Leakage Current at rated V_R	$T_A = 25^\circ\text{C}$	0.5		mA
		$T_A = 100^\circ\text{C}$	20		
$I_{F(AV)}$	Maximum Average Forward Rectified Current		1.0		A
I_{FSM}	Peak Forward Surge Current (8.3ms Single Half Sine-Wave)		30		A
$R_{\theta JL}$	Typical Thermal Resistance (Junction to lead)		28		°C/W
$R_{\theta JA}$	Typical Thermal Resistance (Junction to Ambient)		88		°C/W
T_J	Operating Temperature Range		-65 to +125		°C
T_{STG}	Storage Temperature Range		-65 to +150		°C

Symbol	Conditions	GSDSS15WF	GSDSS16WF	GSDSS18WF	Unit
V_{RRM}	Maximum Recurrent Peak Reverse Voltage	50	60	80	V
V_{RMS}	Maximum RMS Voltage	35	42	56	V
V_{DC}	Maximum DC Blocking Voltage	50	60	80	V
V_F	Maximum Instantaneous At 1.0A DC	0.7	0.7	0.85	V
I_R	Maximum Reverse Leakage Current at rated V_R	$T_A = 25^\circ\text{C}$	0.5		mA
		$T_A = 100^\circ\text{C}$	20		
Symbol	Conditions	GSDSS110WF	GSDSS115WF	GSDSS120WF	Unit
V_{RRM}	Maximum Recurrent Peak Reverse Voltage	100	150	200	V
V_{RMS}	Maximum RMS Voltage	71	105	140	V
V_{DC}	Maximum DC Blocking Voltage	100	150	200	V
V_F	Maximum Instantaneous At 1.0A DC	0.85	0.95	0.95	V
I_R	Maximum Reverse Leakage Current at rated V_R	$T_A = 25^\circ\text{C}$	0.1		mA
		$T_A = 100^\circ\text{C}$	20		
$I_{F(AV)}$	Maximum Average Forward Rectified Current		1.0		A
I_{FSM}	Peak Forward Surge Current (8.3ms Single Half Sine-Wave)		30		A
$R_{\theta JL}$	Typical Thermal Resistance (Junction to lead)		28		$^\circ\text{C/W}$
$R_{\theta JA}$	Typical Thermal Resistance (Junction to Ambient)		88		$^\circ\text{C/W}$
T_J	Operating Temperature Range		-65 to +150		$^\circ\text{C}$
T_{STG}	Storage Temperature Range		-65 to +150		$^\circ\text{C}$

NOTES:

- 1- Pulse test: 300 μs pulse width, 1% duty cycle
- 2- P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0mm) Copper Pad Areas

Typical Characteristics

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

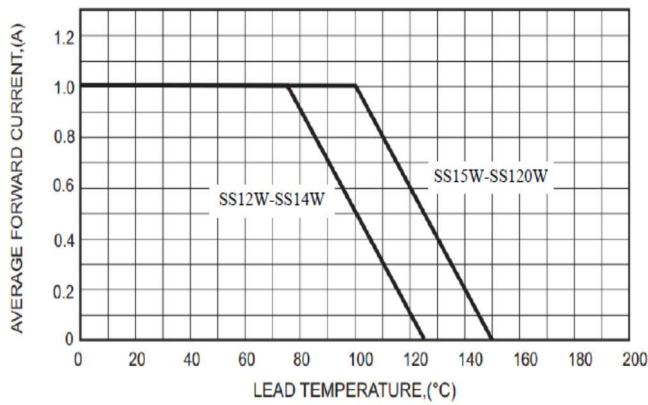


FIG.2-TYPICAL FORWARD CHARACTERISTICS

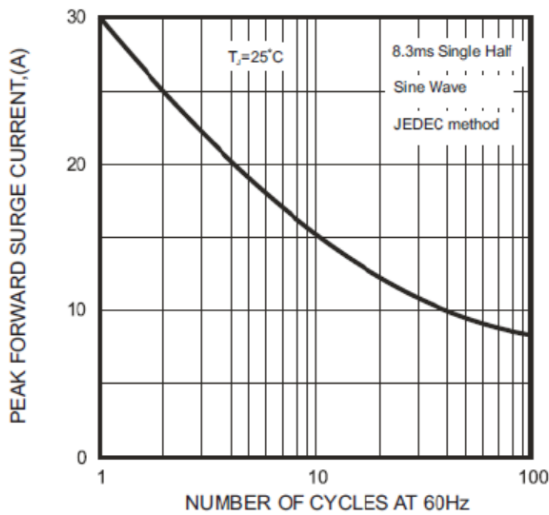
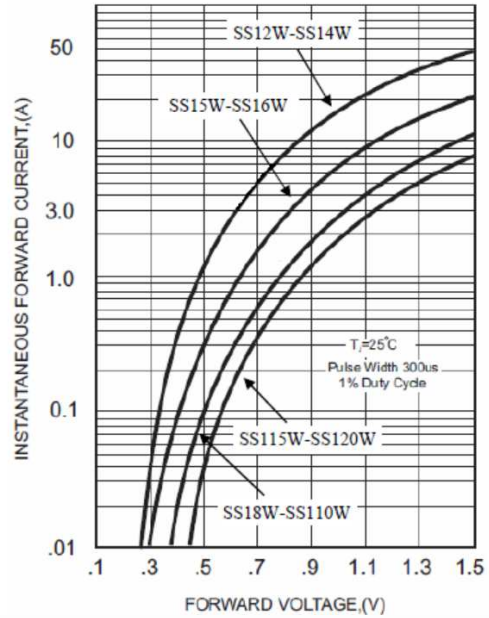


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

CHARACTERISTICS

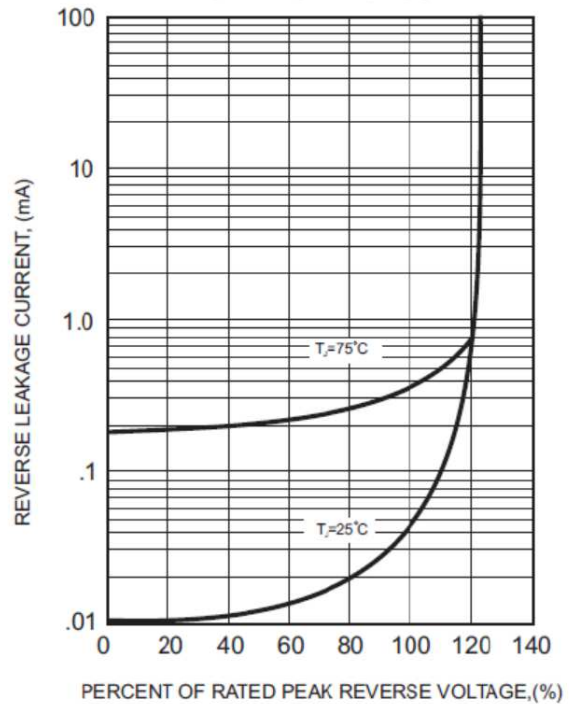
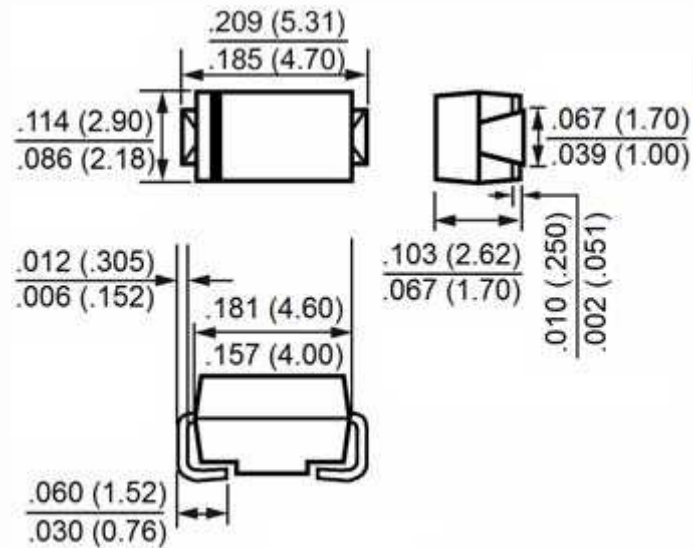


FIG.4- TYPICAL REVERSE

Package Dimension

SMA(W)







Dimensions



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.70	2.62	0.067	0.103
b	1.00	1.70	0.039	0.067
c	0.15	0.31	0.006	0.012
D	2.18	2.90	0.086	0.114
E	4.70	5.31	0.185	0.209
E1	4.00	4.6	0.157	0.181
L	0.76	1.52	0.03	0.06

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