

GSDS20xxDF Series

20Amp Schottky Barrier Rectifiers

Product Description

The GSDS20 Series surface mount, center tap, Schottky rectifier series has been designed for applications requiring low forward drop and small footprints on PC board. Typical applications are disk drives, switching power supplies, converters, freewheeling diodes, battery charging, and reverse battery protection.

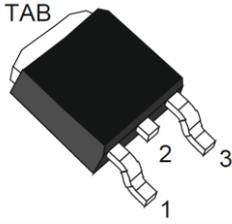
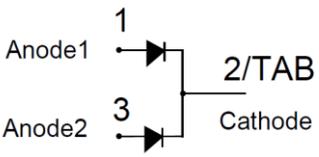
Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- High forward surge current capability
- 260 °C /10 seconds at terminals

Mechanical Data

- Case: Molded Plastic Body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- RoHS Compliant and Halogen Free

Packages & Pin Assignments

TO-252-2L		Equivalent Circuit
		
Pin	Description	
1	Anode 1	
2/TAB	Common Cathode	
3	Anode 2	

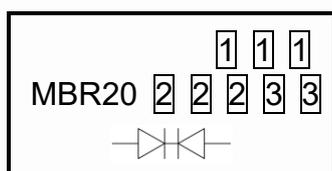
Ordering and Marking Information

Ordering Information			
Part Number	V _{RRM}	Marking Code	Quantity/Reel
GSDS2020DF	20	 MBR2020DT	2,500 PCS
GSDS2040DF	40	 MBR2040DT	2,500 PCS
GSDS2045DF	45	 MBR2045DT	2,500 PCS
GSDS2060DF	60	 MBR2060DT	2,500 PCS
GSDS20100DF	100	 MBR20100DT	2,500 PCS
GSDS20150DF	150	 MBR20150DT	2,500 PCS
GSDS20200DF	200	 MBR20200DT	2,500 PCS

GSDE20¹₁DF

- **Product Code:**
GSDS20
- **Voltage Code:**
¹ is 20, 40 and so on.
for Maximum repetitive peak reverse voltage.
- **Package Code:**
D for TO-252-2L Package
- **Green Level:**
F for RoHS Compliant and Halogen Free

Marking Information



Product Code:
MBR20

GS Code:
¹ is GS Code

Voltage Code:
₂ is 20, 40 and so on.
for Maximum repetitive peak reverse voltage

Package Code:
₃ for TO-252-2L Package

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.)

Symbol	Conditions	GSDS 2020DF	GSDS 2040DF	GSDS 2045DF	GSDS 2060DF	GSDS 20100DF	GSDS 20150DF	GSDS 20200DF	Unit
V_{RRM}	Maximum Recurrent Peak Reverse Voltage	20	40	45	60	100	150	200	V
V_{RMS}	Maximum RMS Voltage	14	28	31.5	42	70	105	140	V
V_{DC}	Maximum DC Blocking Voltage	20	40	45	60	100	150	200	V
$I_{F(AV)}$	Maximum average forward rectified current	20							A
I_{FSM}	Peak forward surge current, 8.3ms single half sinewave superimposed on rated load	150							A
V_F	Maximum instantaneous Forward Voltage per diode at 10A	0.70		0.80	0.85	0.95		V	
I_R	Maximum Reverse Leakage Current at rated V_R	$T_J = 25^\circ\text{C}$	0.5			0.05		mA	
		$T_J = 100^\circ\text{C}$	50			10			
$R_{\theta JA}$	Typical Thermal Resistance	45							$^\circ\text{C/W}$
T_J	Operating Junction Temperature Range	-55 to +125				-55 to +150			$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150							$^\circ\text{C}$

Typical Characteristics (Ratings at 25°C Ambient Temperature Unless Otherwise Specified.)

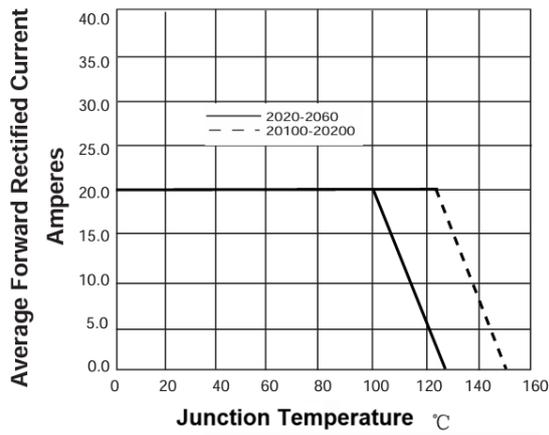


Figure 1. Derating Curve Output Rectified Current

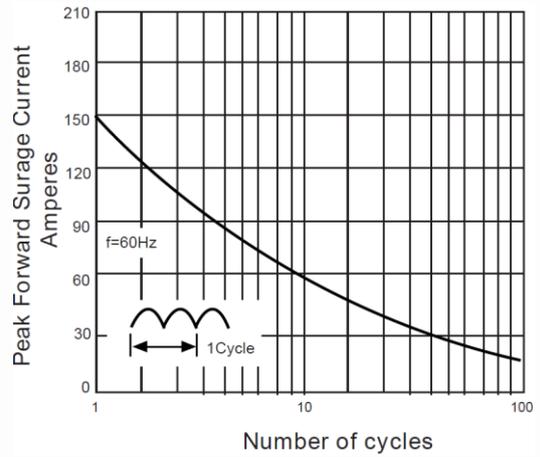


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

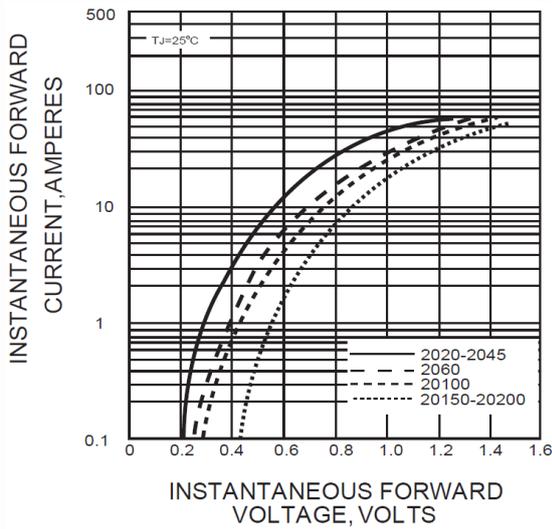


Figure 3. Typical Forward Voltage Characteristics

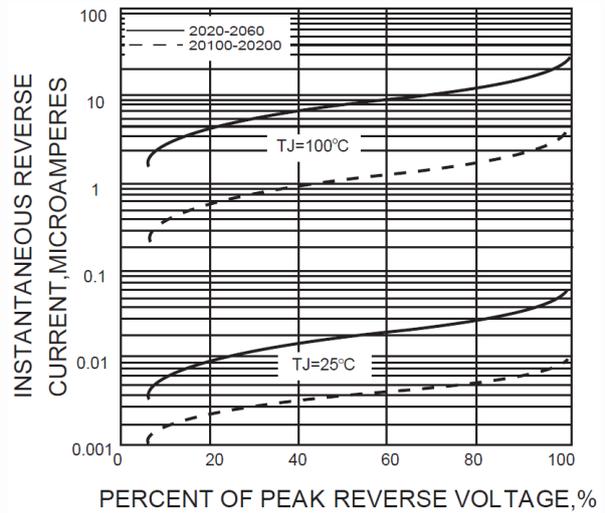
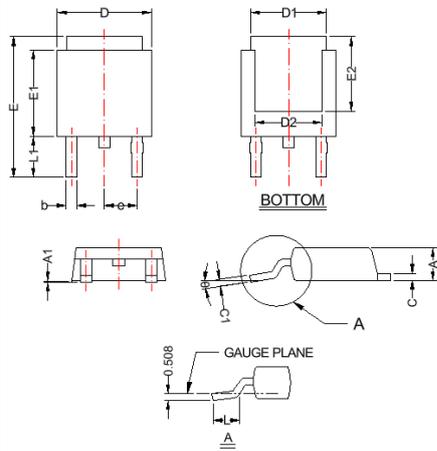


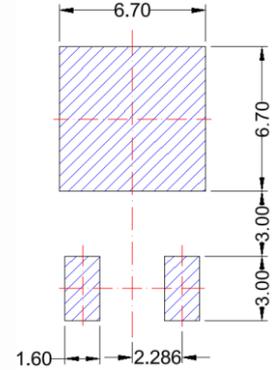
Figure 4. Typical Reverse Leakage Characteristics

TO-252-2L

Package Dimension



Recommended Land Pattern



Unit:mm

(Appearance)

Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.18	2.40	0.086	0.094
A1	0.00	0.15	0.000	0.006
b	0.64	0.90	0.025	0.035
c	0.40	0.89	0.016	0.035
c1	0.40	0.61	0.016	0.024
D	6.35	6.73	0.250	0.265
D1	4.95	5.46	0.195	0.215
D2	4.32	---	0.170	---
E	9.40	10.41	0.370	0.410
E1	5.97	6.22	0.235	0.245
E2	4.95	---	0.195	---
e	2.286 BSC		0.090 BSC	
L	1.40	1.77	0.055	0.070
L1	2.67	3.07	0.105	0.121
θ	0°	8°	0°	8°

NOTE:

Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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