

Schottky Barrier Diode Module

Description

High voltage and performance of Schottky Barrier Diode suited for the high frequency type Switch Mode Power Supply. Packaged in 3DM-2NIE, this device is intended for use in the secondary rectification of the applications.

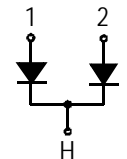

Features

- ☞ Repetitive Reverse Voltage : $V_{RRM} = 100V$
- ☞ Low Forward Voltage Drop : $V_F(\text{typ.}) = 0.85V$
- ☞ Average Forward Current : $I_F(\text{AV.}) = 200A$ @ $T_c = 90^\circ C$
- ☞ Extensive Characterization of Recovery Parameters
- ☞ Reduced EMI and RFI
- ☞ Non Isolation Type Package and $175^\circ C$ Operating Junction Temperature
- ☞ Dual SBD Construction

Applications

High Speed & High Power Converters, Plating System
High Frequency Rectification

Equivalent Circuit and Package

Equivalent Circuit
 <p>(Common Heat Sink)</p>
Package : 3DM -2NIE Series
 <p>Non Isolation Type</p>

Please see the package Out line information

Ordering Information

Device Name	DH2S200N010SE
Optional Information	Common Heat Sink Non Isolation Type

Absolute Maximum Ratings @ $T_j=25^\circ C$ (Per Leg)

Symbol	Parameter	Conditions	Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		100	V
$V_{R(DC)}$	Reverse DC Voltage		80	V
$I_{F(AV)}$	Average Forward Current	@ $T_c = 25^\circ C$ @ $T_c = 90^\circ C$	400 200	A A
I_{FSM}	Surge(non-repetitive) Forward Current	One Half Cycle at 60Hz, Peak Value	3000	A
I^2t	I^2t for Fusing	Value for One Cycle Current, $t_w = 8.3ms, T_j = 25^\circ C$ Start	39.5×10^3	A^2s
T_j	Junction Temperature		-40 ~ 175	$^\circ C$
T_{stg}	Storage Temperature		-40 ~ 150	$^\circ C$
-	Mounting Torque(M6)		4.0	N.m
-	Terminal Torque(M6)	Typical Including Screws	3.0	N.m
-	Weight		85	g

Thermal Characteristics

Symbol	Parameter	Conditions	Values			Unit
			Min.	Typ.	Max.	
$R_{th(j-c)}$	Thermal Resistance(Non Isolation Type)	Junction to Case	-	-	0.26	°C/W

Electrical Characteristics @ $T_J=25^\circ\text{C}$ (unless otherwise specified)

Symbol	Parameter	Conditions	Values			Unit	
			Min.	Typ.	Max.		
V_R	Cathode Anode Breakdown Voltage	$I_R = 500\mu\text{A}$	100	-	-	V	
V_{FM}	Maximum Forward Voltage	$I_{FM} = 200\text{A}, T_c = 25^\circ\text{C}$	-	0.85	1.1	V	
		$I_{FM} = 200\text{A}, T_c = 100^\circ\text{C}$	-	0.75	1.0	V	
I_{RRM}	Repetitive Peak Reverse Current	$T_c = 25^\circ\text{C}, V_{RRM}$ applied	-	-	40	μA	
		$T_c = 100^\circ\text{C}, V_{RRM}$ applied	-	-	50	mA	
T_{rr}	Reverse Recovery Time	$I_{FM} = 200\text{A},$ $V_R = 50\text{V}$ $di/dt = -200\text{A}/\mu\text{s}$	$T_c = 25^\circ\text{C}$	-	80	110	ns
			$T_c = 100^\circ\text{C}$	-	110	-	ns

Performance Curves

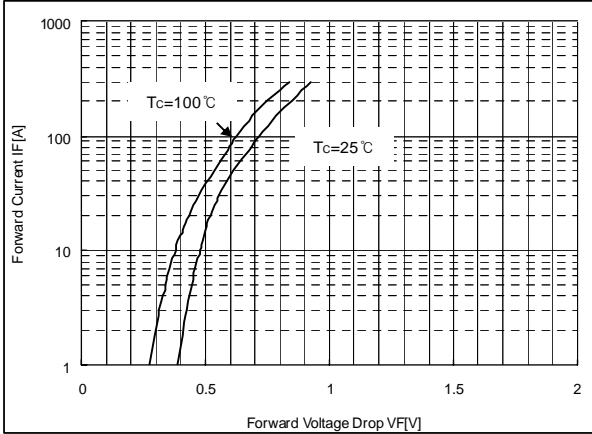


Fig. 1 : Typical Forward Voltage Drop vs. Instantaneous Forward Current

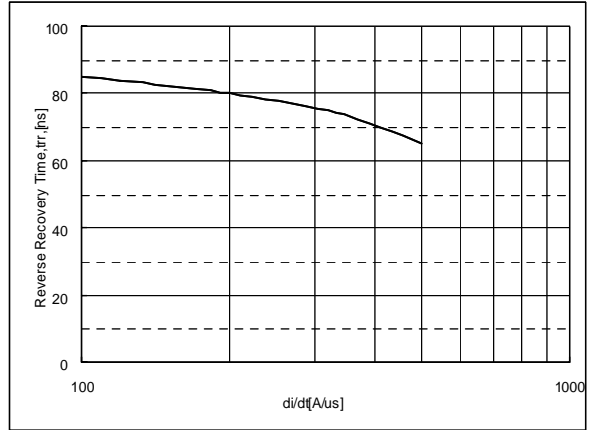


Fig. 2 : Typical Reverse Recovery Time vs. $-di/dt$

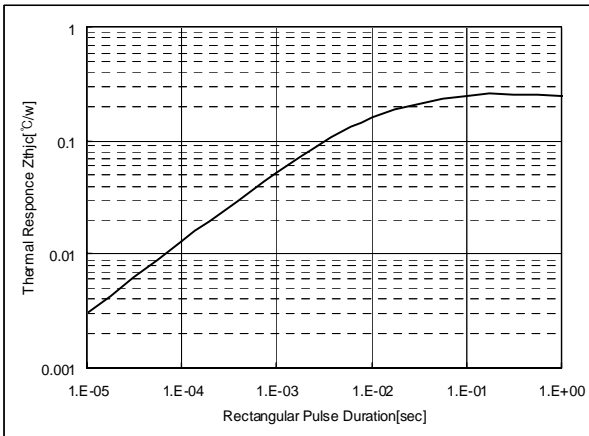


Fig. 3 : Transient Thermal Impedance ($Z_{th(jc)}$) Characteristics

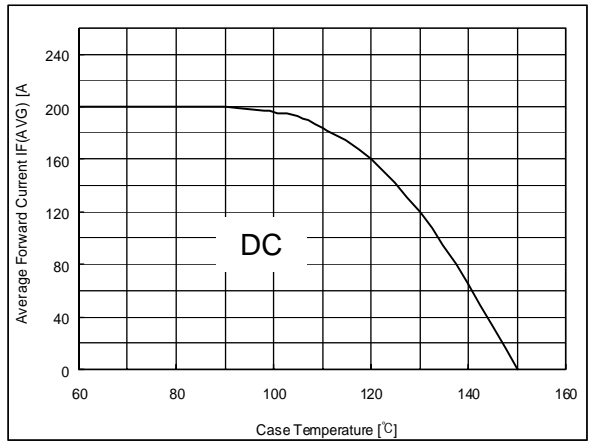


Fig. 4 : Forward Current Derating Curve

Package Out Line Information

3DM-2NIE Series



UNIT : mm

