

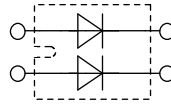
Sonic Fast Recovery Diode

High Performance Fast Recovery Diode
 Low Loss and Soft Recovery
 Parallel legs

$V_{RRM} = 1200\text{ V}$
 $I_{FAV} = 2 \times 50\text{ A}$
 $t_{rr} = 75\text{ ns}$

Part number

DHG 100 X 1200 NA



Backside: Isolated

Features / Advantages:

- Planar passivated chips
- Very low leakage current
- Very short recovery time
- Improved thermal behaviour
- Very low I_{rm} -values
- Very soft recovery behaviour
- Avalanche voltage rated for reliable operation
- Soft reverse recovery for low EMI/RFI
- Low I_{rm} reduces:
 - Power dissipation within the diode
 - Turn-on loss in the commutating switch

Applications:

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode
- Rectifiers in switch mode power supplies (SMPS)
- Uninterruptible power supplies (UPS)

Package:

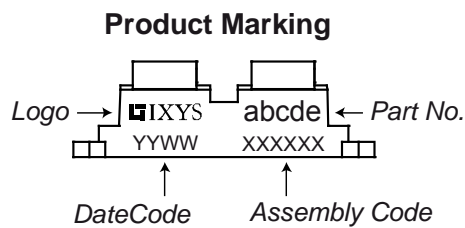
- Housing: SOT-227B (minibloc)
- Industry standard outline
- Cu base plate internal DCB isolated
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

Ratings

Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
V_{RRM}	max. repetitive reverse voltage	$T_{VJ} = 25^\circ\text{C}$			1200	V	
I_R	reverse current	$V_R = 1200\text{ V}$			100	μA	
		$V_R = 1200\text{ V}$			4	mA	
V_F	forward voltage	$I_F = 50\text{ A}$			2.16	V	
		$I_F = 100\text{ A}$			2.77	V	
		$I_F = 50\text{ A}$	$T_{VJ} = 125^\circ\text{C}$			2.05	V
		$I_F = 100\text{ A}$	$T_{VJ} = 125^\circ\text{C}$			2.81	V
I_{FAV}	average forward current	rectangular $d = 0.5$	$T_C = 65^\circ\text{C}$		50	A	
V_{F0}	threshold voltage	} for power loss calculation only	$T_{VJ} = 150^\circ\text{C}$		1.20	V	
r_F	slope resistance				14.8	$\text{m}\Omega$	
R_{thJC}	thermal resistance junction to case				0.60	K/W	
T_{VJ}	virtual junction temperature		-40		150	$^\circ\text{C}$	
P_{tot}	total power dissipation		$T_C = 25^\circ\text{C}$		200	W	
I_{FSM}	max. forward surge current	$t = 10\text{ ms}$ (50 Hz), sine	$T_{VJ} = 45^\circ\text{C}$		430	A	
I_{RM}	max. reverse recovery current		$T_{VJ} = 25^\circ\text{C}$		50	A	
		$I_F = 50\text{ A}; V_R = 800\text{ V}$	$T_{VJ} = \text{ }^\circ\text{C}$		tbd	A	
t_{rr}	reverse recovery time	$-di_F/dt = 2500\text{ A}/\mu\text{s}$	$T_{VJ} = 25^\circ\text{C}$		75	ns	
			$T_{VJ} = \text{ }^\circ\text{C}$		tbd	ns	
C_J	junction capacitance	$V_R = 600\text{ V}; f = 1\text{ MHz}$	$T_{VJ} = 25^\circ\text{C}$		27	pF	

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per pin ¹⁾			100	A
R_{thCH}	thermal resistance case to heatsink			0.10		K/W
T_{stg}	storage temperature		-40		150	°C
Weight				30		g
M_D	mounting torque		1.1		1.5	Nm
M_T	terminal torque		1.1		1.5	Nm
V_{ISOL}	isolation voltage	t = 1 second	3000			V
		t = 1 minute	2500			V
d_s	creepage distance on surface		8			mm
d_A	striking distance through air		4			mm

¹⁾ I_{RMS} is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.
 In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.

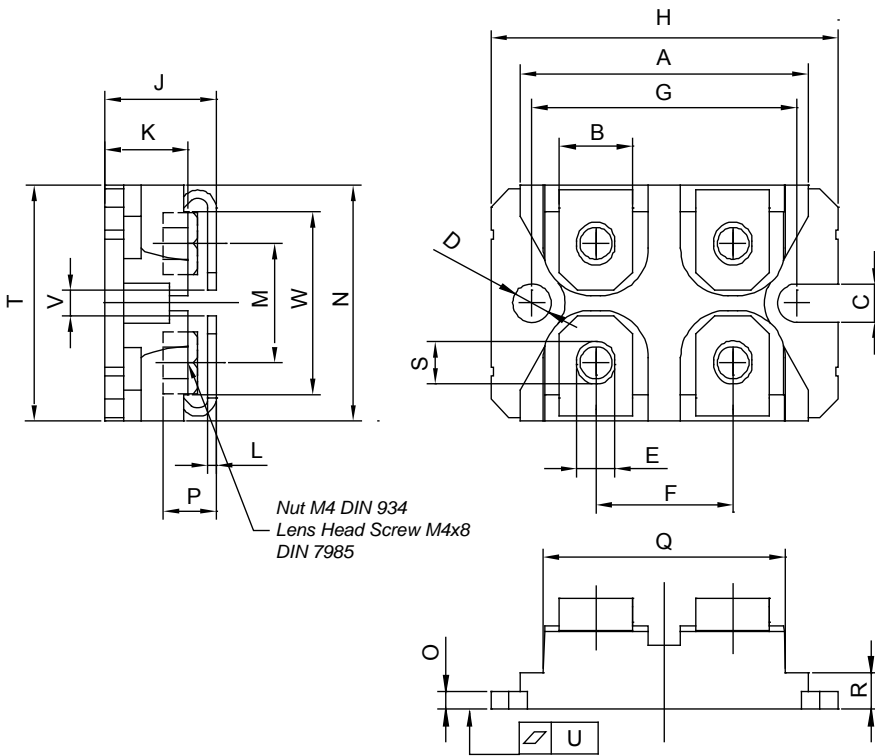


Part number

- D = Diode
- H = Sonic Fast Recovery Diode
- G = extreme fast
- 100 = Current Rating [A]
- X = Parallel legs
- 1200 = Reverse Voltage [V]
- NA = SOT-227B (minibloc)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DHG 100 X 1200 NA	DHG100X1200NA	Tube	10	507759

Outlines SOT-227B (minibloc)



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	31.50	31.88	1.240	1.255
B	7.80	8.20	.307	.323
C	4.09	4.29	.161	.169
D	4.09	4.29	.161	.169
E	4.09	4.29	.161	.169
F	14.91	15.11	.587	.595
G	30.12	30.30	1.186	1.193
H	37.80	38.23	1.489	1.505
J	11.68	12.22	.460	.481
K	8.92	9.60	.351	.378
L	0.76	0.84	.030	.033
M	12.60	12.85	.496	.506
N	25.15	25.42	.990	1.001
O	1.98	2.13	.078	.084
P	4.95	5.97	.195	.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	.155	.174
S	4.72	4.85	.186	.191
T	24.59	25.07	.968	.987
U	-0.05	.10	-.002	.004
V	3.30	4.57	.130	.180
W	19.81	21.08	.780	.830