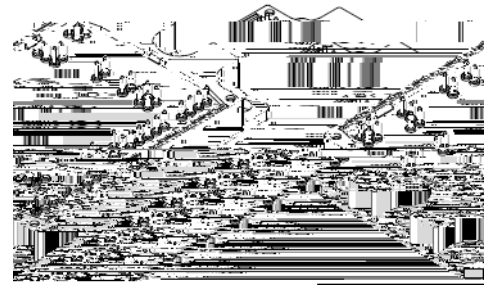


Flying Capacitor BOOST Module

Product Preview

NXH500B100H7F5SHG

The NXH500B100H7F5SHG is a power module in F5BP package containing two independent flying capacitor boost converters. The integrated field stop trench IGBTs and Si/SiC Diodes provide lower conduction and switching losses, enabling designers to achieve high efficiency, high power density and superior reliability.



PIM58 112x62 (SOLDER PIN)
 CASE 180CZ

Features

- Flying Capacitor Boost Module
- 1000V Field Stop 7 IGBTs and 1200V SiC Diodes
- Low Inductive Layout
- Solder Pins
- Integrated NTC Thermistor
- This is a Pb-Free and Halide Free Device

Typical Applications

- Solar Inverter
- Energy Storage System

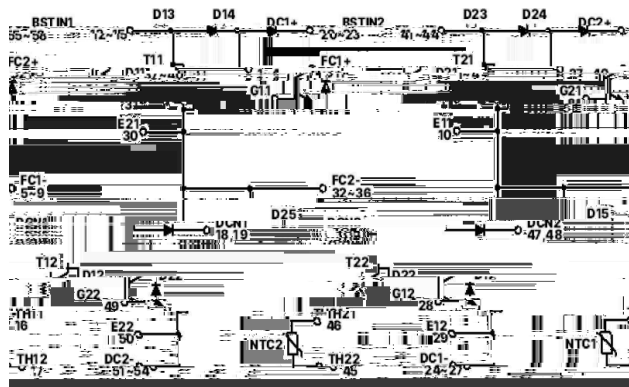
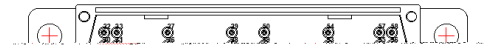


Figure 1. NXH500B100H7F5SHG Schematic Diagram



See detailed ordering and shipping information on page 4 of this data sheet.

This document contains information on a product under development. onsemi reserves the right to change or discontinue this product without notice.

NXH500B100H7F5SHG

MODULE CHARACTERISTICS

Rating	Symbol	Value	Unit
Operating Temperature under Switching Condition	TVJOP	-40 to 150	°C
Storage Temperature Range	Tstg	-40 to 125	°C
Isolation Test Voltage, t = 2 sec, 50 Hz (Note 1)	V _{is}	4800	VRMS
Stray Inductance	L _s CE	15	nH
Terminal Connection Torque (M5, Screw)	M	3 to 5	Nm

NXH500B100H7F5SHG

ELECTRICAL CHARACTERISTICS $T_J = 25^\circ\text{C}$ unless otherwise noted

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
IGBT INVERSE DIODE (D11, D12, D21 D22)						
I^2t	$t_p = 10 \text{ ms}, T_{vj} = 150^\circ\text{C}$	I^2t	-	1250	-	A^2s
Thermal Resistance – chip-to-heatsink	Thermal grease,					

NXH500B100H7F5SHG

TYPICAL CHARACTERISTIC – D13,D14,D23,D24 (SIC SCHOTTKY DIODE) (continued)

NXH500B100H7F5SHG

TYPICAL CHARACTERISTICS – T11, T12, T21, T22 (IGBT) (continued)

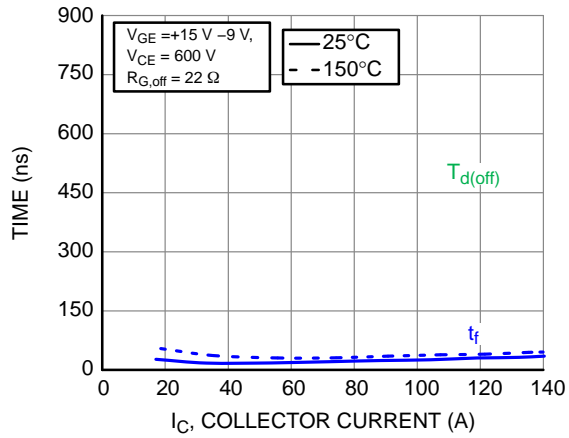


Figure 21. Typical Turn Off Switching Time vs. I_C

Figure 22. Typical Turn On Switching Time vs. I_C

NXH500B100H7F5SHG

TYPICAL CHARACTERISTICS – SIC SCHOTTKY DIODE (D13,D14,D23,D24) (continued)

Figure 27. Typical Reverse Recovery
Time vs. I_C

NXH500B100H7F5SHG

TYPICAL CHARACTERISTICS – SIC SCHOTTKY DIODE (D13,D14,D23,D24) (continued)

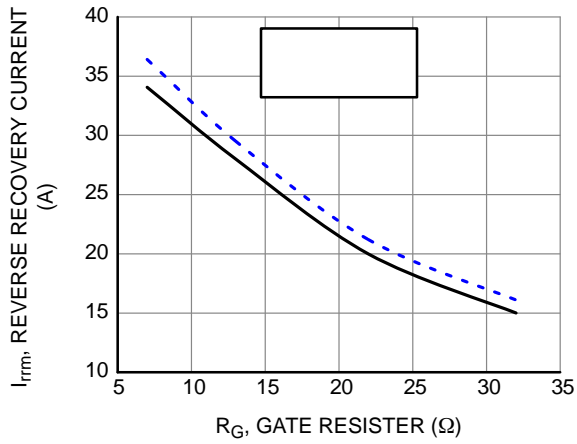
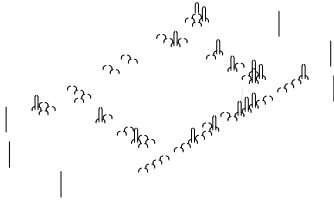


Figure 33. Typical Reverse Recovery Time vs. I_C

Figure 34. Typical Reverse Recovery Charge vs. I_C



PIM58 112.00x62.00x12.00
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