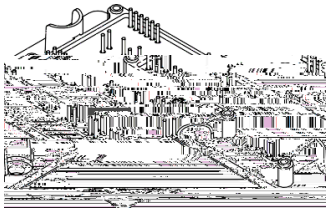
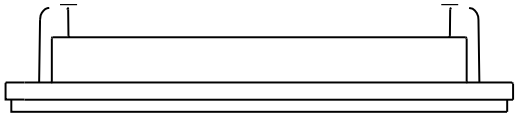


PIM56, 93x47 (SOLDER PIN)
CASE 180AK

MARKING DIAGRAM



Features

- Split T−type Neutral Point Clamped Three−level Inverter Module
- 1200 V Ultra Field Stop IGBTs & 650 V FS4 IGBTs
- 650 V SiC Diodes
- Low Inductive Layout
- Solderable Pins
- Thermistor
- Pre−applied Thermal Interface Material (TIM) (optional)
- Nickel Plated DBC

Typical Applications

- Solar Inverters
- Uninterruptible Power Supplies

PIN CONNECTIONS

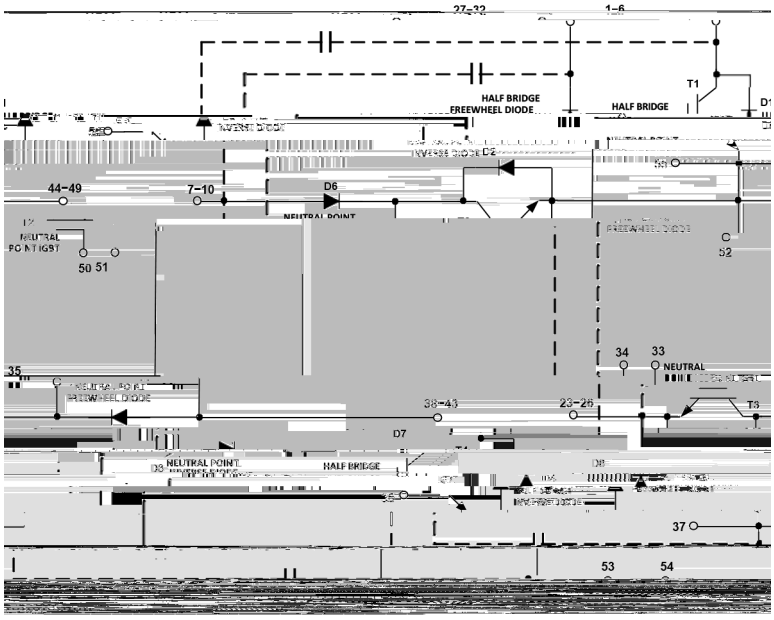


Figure 1. NXH200T120H3Q2F2STNG Schematic Diagram

ORDERING INFORMATION

March, 2023 − Rev. 4

Table 1. ABSOLUTE MAXIMUM RATINGS °

Rating	Symbol	Value	Unit
NEUTRAL POINT INVERSE DIODE			
° °			
°			
° °			
		–	°C
			°C
THERMAL PROPERTIES			
		–	°C
INSULATION PROPERTIES			

Table 2. RECOMMENDED OPERATING RANGES

Rating	Symbol	Min	Max	Unit
		–	–	°C

Table 3. ELECTRICAL CHARACTERISTICS °

Parameter

Table 3. ELECTRICAL CHARACTERISTICS °

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
HALF BRIDGE IGBT CHARACTERISTICS						
–	° − + Ω					
–						
–						
–						
– – –	μ λ					°
– – –						°
NEUTRAL POINT FREEWHEEL DIODE CHARACTERISTICS						

Table 3. ELECTRICAL CHARACTERISTICS °

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
NEUTRAL POINT IGBT CHARACTERISTICS						
–	°					
	–					
	Ω					
–						

Table 3. ELECTRICAL CHARACTERISTICS °

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
HALF BRIDGE INVERSE DIODE CHARACTERISTICS						
	°					
	°		–		–	
– – –	μ λ					°
– – –						°
NEUTRAL POINT INVERSE DIODE CHARACTERISTICS						
	°					
	°		–		–	
– – –	μ λ					°
– – –						°
THERMISTOR CHARACTERISTICS						
			–		–	
	°		–		–	
			–	–		
			–		–	
			–		–	
–	±		–		–	
–	±		–		–	

ORDERING INFORMATION

Device	Marking	Package	Shipping

TYPICAL CHARACTERISTICS − HALF BRIDGE IGBT AND NEUTRAL POINT DIODE

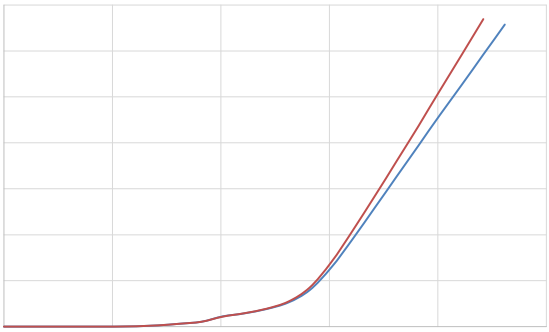


Figure 2. Typical Output Characteristics

Figure 3. Typical Output Characteristics

Figure 4. Typical Transfer Characteristics

Figure 5. Typical Diode Forward Characteristics

Figure 6. Typical Turn ON Loss vs. I_C

Figure 7. Typical Turn OFF Loss vs. I_C

NXH200T120H3Q2F2STNG

TYPICAL CHARACTERISTICS − HALF BRIDGE IGBT AND NEUTRAL POINT DIODE

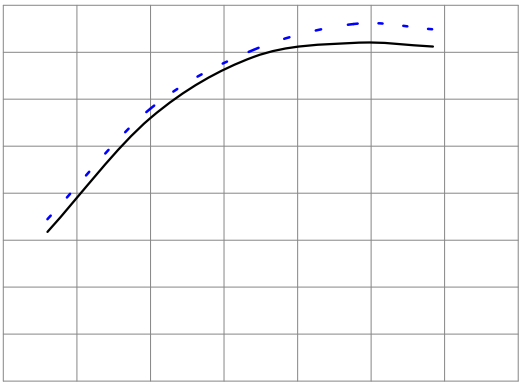


Figure 14. Typical Reverse Recovery Energy vs. I_C

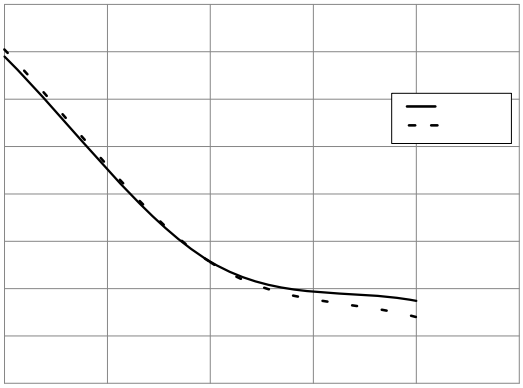


Figure 15. Typical Reverse Recovery Energy Loss vs. R_G

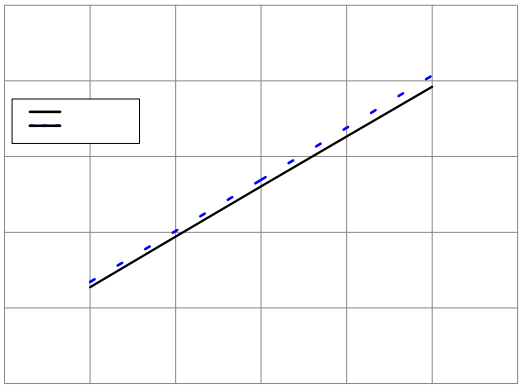


Figure 16. Typical Turn ON Loss vs. R_G

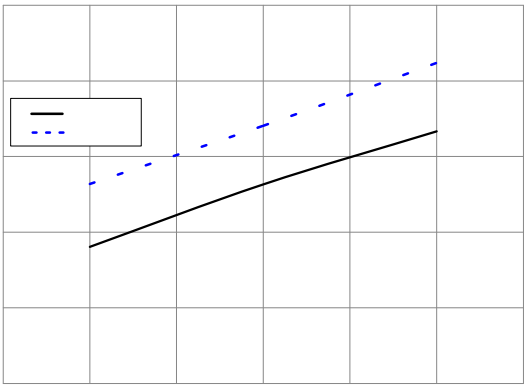


Figure 17. Typical Turn OFF vs. R_G

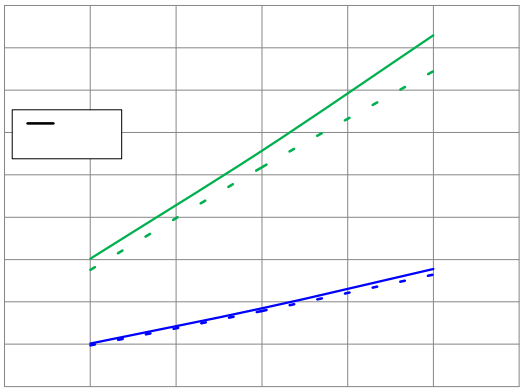


Figure 18. Typical Turn ON Switching Time vs. R_G

Figure 19. Typical Turn OFF Switching Time vs. R_G

TYPICAL CHARACTERISTICS − HALF BRIDGE IGBT AND NEUTRAL POINT DIODE

TYPICAL CHARACTERISTICS − NEUTRAL POINT IGBT AND HALF BRIDGE DIODE

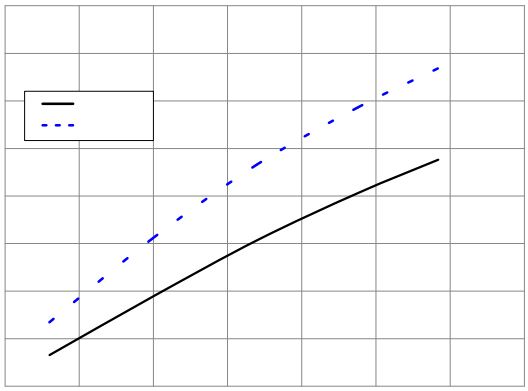


Figure 33. Typical Turn ON Loss vs. I_C

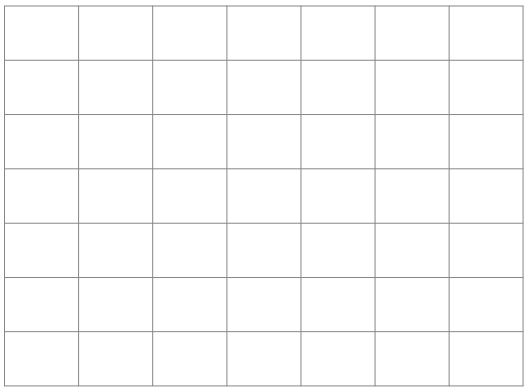


Figure 34. Typical Turn OFF Loss vs. I_C

Figure 35. Typical Turn ON Switching Time vs. I_C

Figure 36. Typical Turn OFF Switching Time vs. I_C

Figure 37. Typical Reverse Recovery Time vs. I_C

Figure 38. Typical Reverse Recovery Charge vs. I_C

TYPICAL CHARACTERISTICS − NEUTRAL POINT IGBT AND HALF BRIDGE DIODE

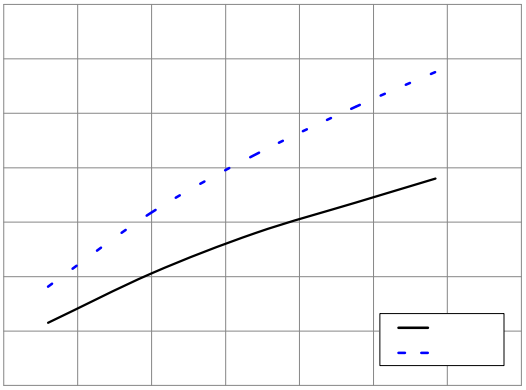


Figure 39. Typical Turn ON Loss vs. I_C

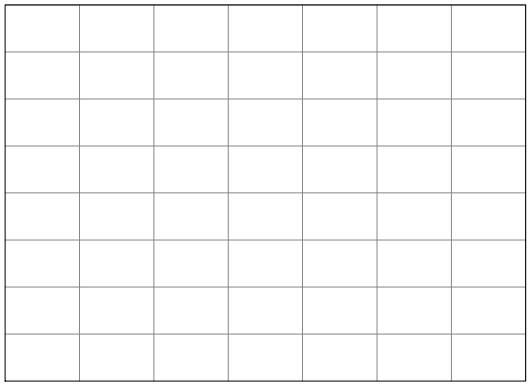


Figure 40. Typical Turn OFF Loss vs. I_C

Figure 41. Typical Turn ON Switching Time vs. I_C

Figure 42. Typical Turn OFF Switching Time vs. I_C

Figure 43. Typical Turn ON Loss vs. R_G

Figure 44. Typical Turn OFF vs. R_G

TYPICAL CHARACTERISTICS − NEUTRAL POINT INVERSE DIODE

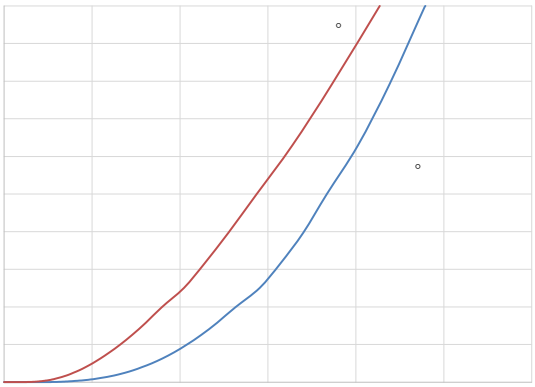
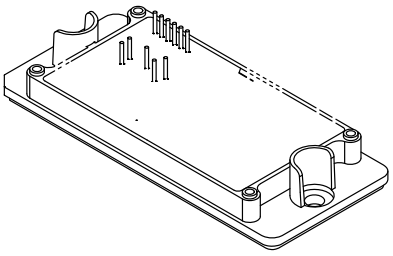


Figure 58. Diode Forward Characteristic

Figure 59. Diode Transient Thermal Impedance



PIM56, 93x47 (SOLDER PIN)