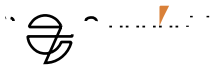
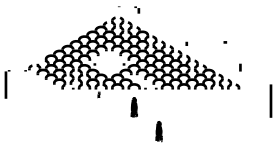




PIN FUNCTION DESCRIPTION

Pin	Name	Description
1	TH1	Thermistor Connection 1
2	TH2	Thermistor Connection 2
3	AC1	Center point of full bridge 1
4	AC1	Center point of full bridge 1
5	AC1	Center point of full bridge 1
6	AC1	Center point of full bridge 1
7	G1	M1 Gate (High side switch)
8	S1	M1 Kelvin Source (High side switch)
9	G3	M3 Gate (High side switch)
10	S3	M3 Kelvin Source (High side switch)
11	AC2	Center point of full bridge 2
12	AC2	Center point of full bridge 2
13	AC2	Center point of full bridge 2
14	AC2	Center point of full bridge 2
15	G4	M4 Gate (Low side switch)
16	S4	M4 Kelvin Source (Low side switch)
17	DC−2	DC Negative Bus connection
18	DC−2	DC Negative Bus connection
19	DC−2	DC Negative Bus connection
20	DC−2	DC Negative Bus connection
21	DC+	DC Positive Bus connection
22	DC+	DC Positive Bus connection
23	DC+	DC Positive Bus connection
24	DC+	DC Positive Bus connection
25	DC+	DC Positive Bus connection
26	DC+	DC Positive Bus connection
27	DC+	DC Positive Bus connection
28	DC+	DC Positive Bus connection
29	DC−1	DC Negative Bus connection
30	DC−1	DC Negative Bus connection
31	DC−1	DC Negative Bus connection
32	DC−1	DC Negative Bus connection
33	S2	Q2 Kelvin Source (Low side switch)
34	G2	Q2 Gate (Low side switch)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
SiC MOSFET			
Drain−Source Voltage	V_{DSS}	1200	V
Gate−Source Voltage	V_{GS}	+22/−10	V
Continuous Drain Current @ T_c = 80°C (T_J = 175°C)	I_D	105	A
Pulsed Drain Current (T_J = 175°C)	I_{Dpulse}	316	A
Maximum Power Dissipation (T_J = 175°C)	P_{tot}	244	W
Minimum Operating Junction Temperature	T_{JMIN}	−40	°C
Maximum Operating Junction Temperature	T_{JMAX}	175	

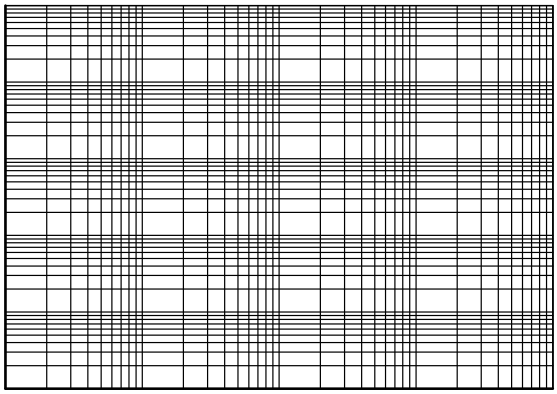
ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise noted) (continued)

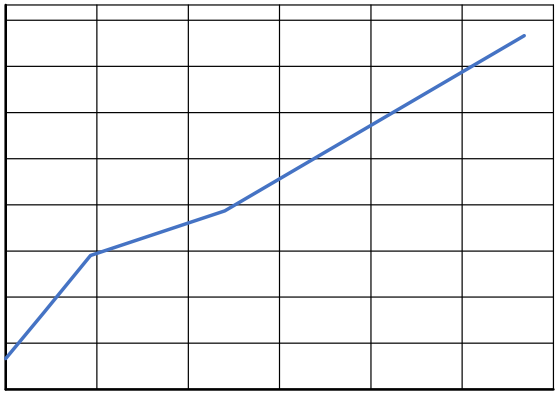
Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
SiC MOSFET CHARACTERISTICS						
Turn−on Delay Time	T_J = 25°C V_{DS}= 800 V, I_D = 100 A V_{GS} = −3 V / 18 V, R_G = 3.9 Ω	$t_{d(on)}$	–	30.9	–	ns
Rise Time		t_r	–	12.7	–	
Turn−off Delay Time		$t_{d(off)}$	–	110.5	–	
Fall Time		t_f	–	12.6	–	
Turn−on Switching Loss per Pulse		E_{ON}	−	1.52	–	mJ
Turn−off Switching Loss per Pulse		E_{OFF}	−	0.5	–	
Turn−on Delay Time	T					

NXH011F120M3F2PTHG

TYPICAL CHARACTERISTIC

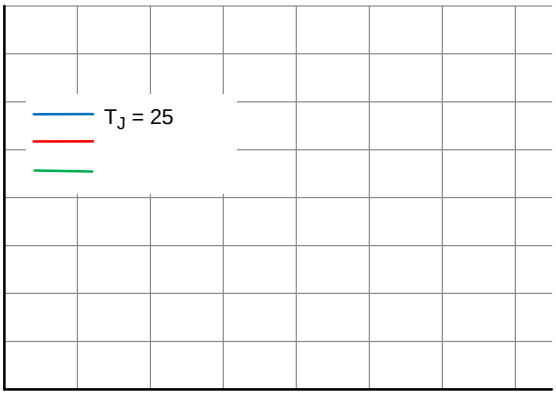
(M1/M2 SiC MOSFET CHARACTERISTIC)

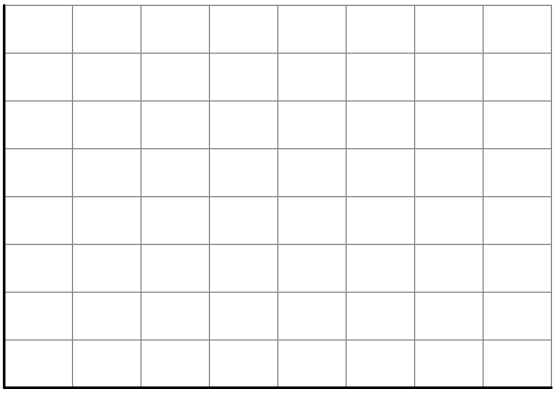




TYPICAL CHARACTERISTICS

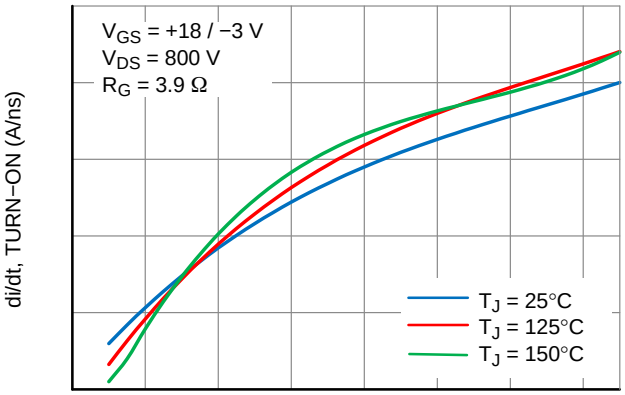
M1/M2 SIC MOSFET CHARACTERISTIC





TYPICAL CHARACTERISTICS

M1/M2 SIC MOSFET CHARACTERISTIC



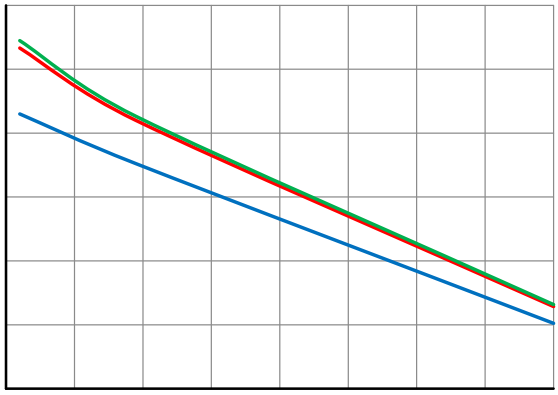


Figure 17. di/dt Turn ON vs. Drain Current V_{DS} = 800 V

TYPICAL CHARACTERISTICS

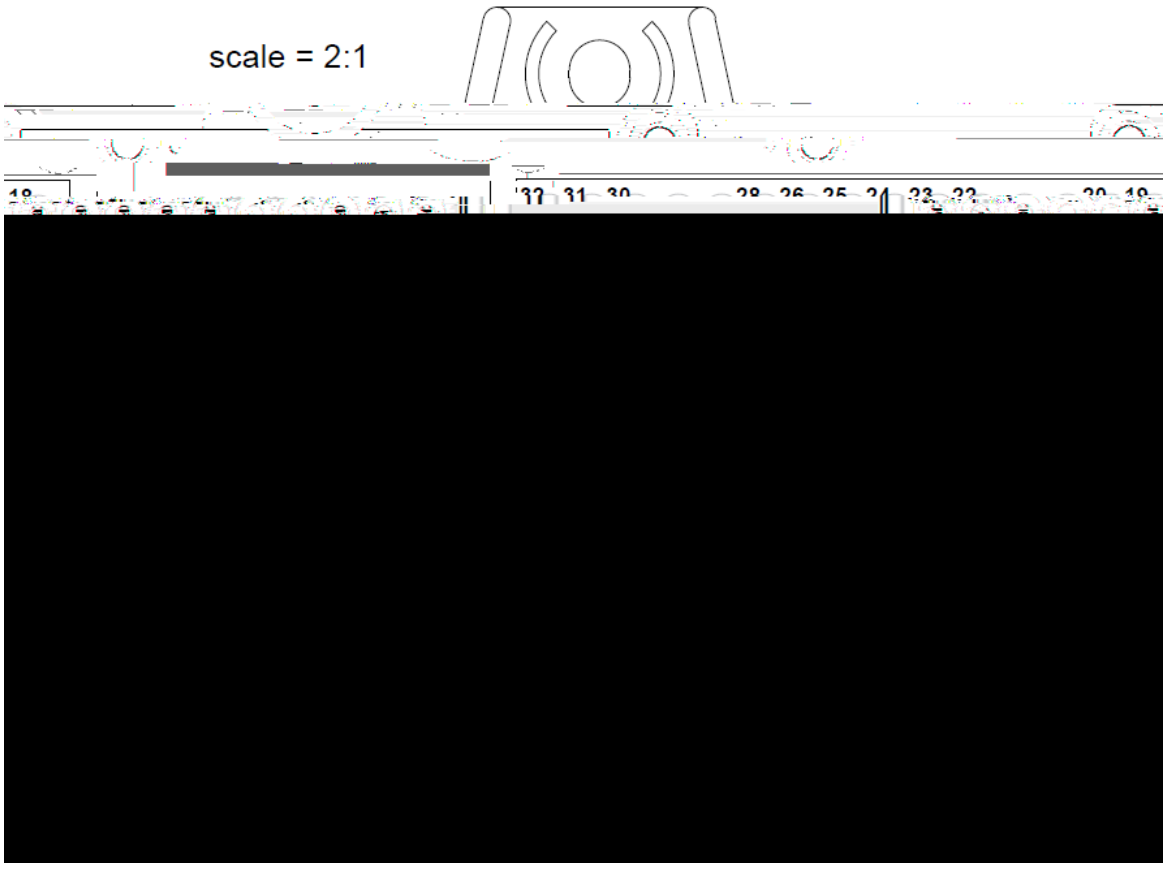


Figure 25.

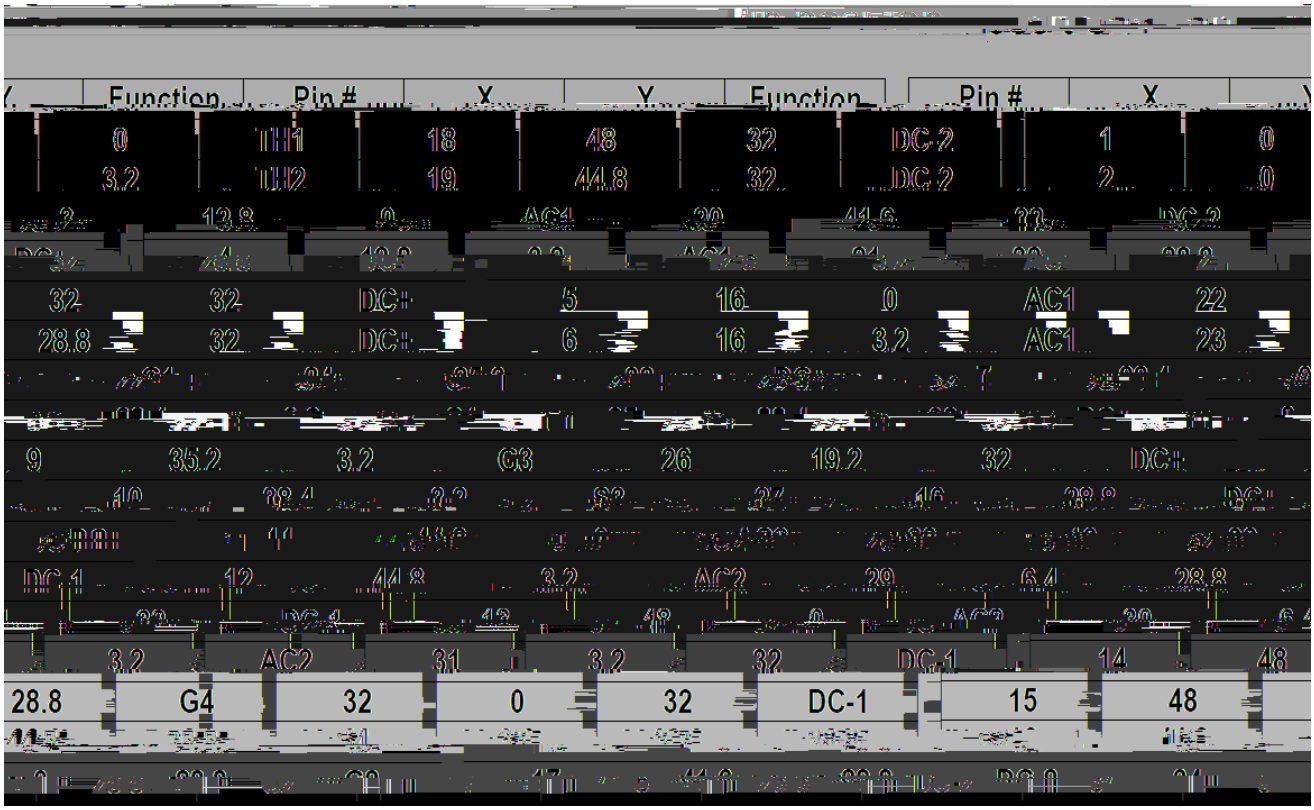
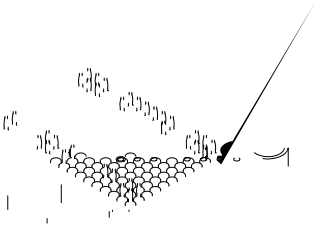
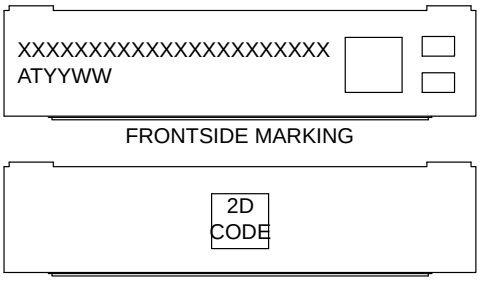


Figure 26.





XXXXX = Specific Device Code
AT = Assembly & Test Site Code
YYWW = Year and Work Week Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “ ▪”, may or may not be present. Some products may not follow the Generic Marking.