

NXH015P120M3F1PTG

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ELECTRICAL CHARACTERISTICS (continued)

T_J = 25 °C unless otherwise noted

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit	
SiC MOSFET CHARACTERISTICS							
Total Gate Charge	V _{DS} = 800 V, V _{GS} = -3/18 V, I _D = 60 A	Q _{G(TOTAL)}	-	211	-	nC	
Gate-Source Charge		Q _{GS}	-	16	-	nC	
Gate-Drain Charge		Q _{GD}	-	50	-	nC	
Turn-on Delay Time	T _J = 25°C V _{DS} = 800 V, I _D = 60 A V _{GS} = -3 V / 18 V, R _G = 2.7 Ω	t _{d(on)}	-	25	-	ns	
Rise Time		t _r	-	9	-		
Turn-off Delay Time		t _{d(off)}	-	94	-		
Fall Time		t _f	-	8	-		
Turn-on Switching Loss per Pulse			E _{ON}	-	1190	-	μJ
Turn-off Switching Loss per Pulse			E _{OFF}	-	120	-	μJ
Turn-on Delay Time		T _J = 150°C V _{DS} = 800 V, I _D = 60 A V _{GS} = -3 V / 18 V, R _G = 2.7 Ω	t _{d(on)}	-	22	-	ns
Rise Time			t _r	-	10	-	
Turn-off Delay Time	t _{d(off)}		-	107	-		
Fall Time	t _f		-	8	-		
Turn-on Switching Loss per Pulse			E _{ON}	-	1560	-	μJ
Turn-off Switching Loss per Pulse			E _{OFF}	-	170	-	μJ
Diode Forward Voltage	V _{GS} = -3 V, I _{SD} = 60 A, T _J = 25°C	VSD	-	4.67	6.2	V	
	V _{GS} = -3 V, I _{SD} = 60 A, T _J = 125°C		-	4.45	-		
	V _{GS} = -3 V, I _{SD} = 60 A, T _J = 150°C		-	4.4	-		
Thermal Resistance - Chip-to-Case	M1, M2	R _{thJC}	-	0.48	-	°C/W	

Thermal Resistance - R_{thJC} (Chip-to-Case Resistance) = 0.98°C/W (M1), 0.98°C/W (M2) at 25°C (T_J = 25°C) for a 100ns pulse, R_{thJC} (Chip-to-Case Resistance) = 0.98°C/W (M1), 0.98°C/W (M2) at 25°C (T_J = 25°C) for a 100ns pulse, R_{thJC} (Chip-to-Case Resistance) = 0.98°C/W (M1), 0.98°C/W (M2) at 25°C (T_J = 25°C) for a 100ns pulse, R_{thJC} (Chip-to-Case Resistance) = 0.98°C/W (M1), 0.98°C/W (M2) at 25°C (T_J = 25°C) for a 100ns pulse, R_{thJC} (Chip-to-Case Resistance) = 0.98°C/W (M1), 0.98°C/W (M2) at 25°C (T_J = 25°C) for a 100ns pulse

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TYPICAL CHARACTERISTICS M1/M2 SIC MOSFET CHARACTERISTIC

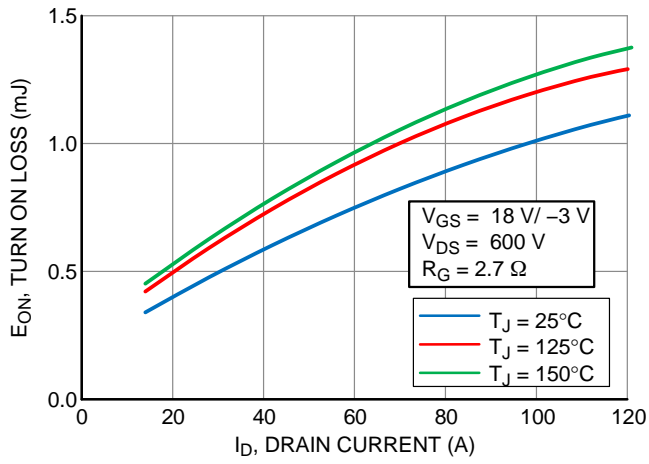


Figure 8. Switching On Loss vs. Drain Current
 $V_{DS} = 600\text{ V}$

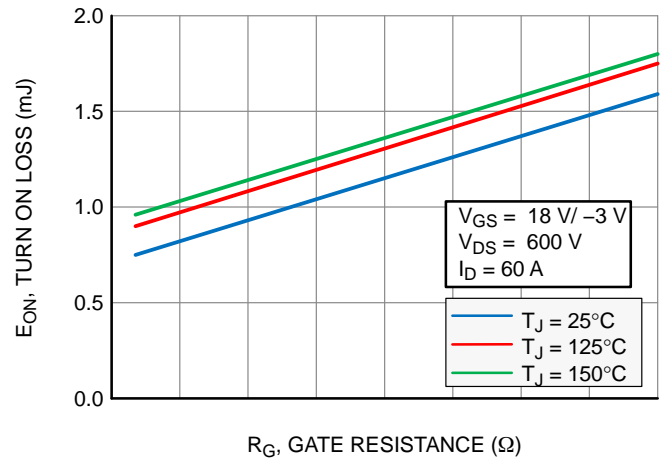


Figure 9. Switching On Loss vs. Gate Resistance
 $V_{DS} = 600\text{ V}$

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TYPICAL CHARACTERISTICS

M1/M2 SIC MOSFET CHARACTERISTIC

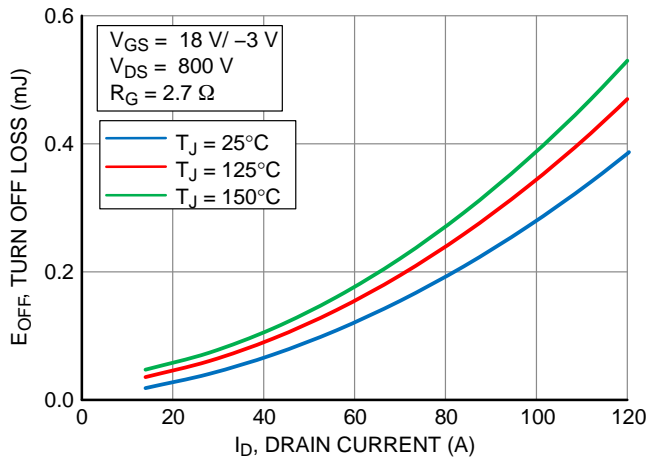


Figure 14. Switching Off Loss vs. Drain Current $V_{DS} = 800\text{ V}$

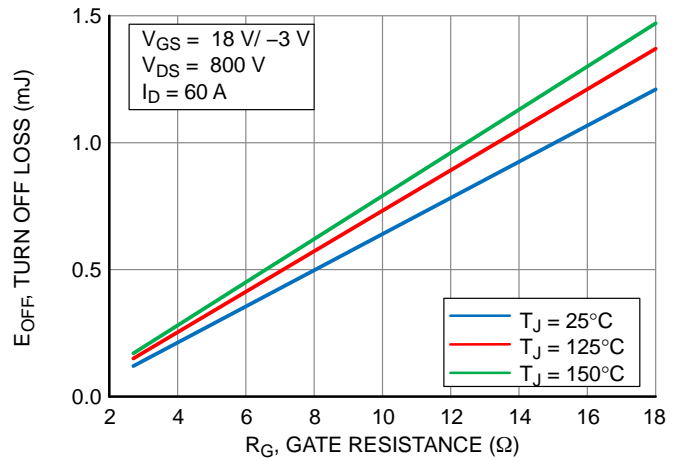
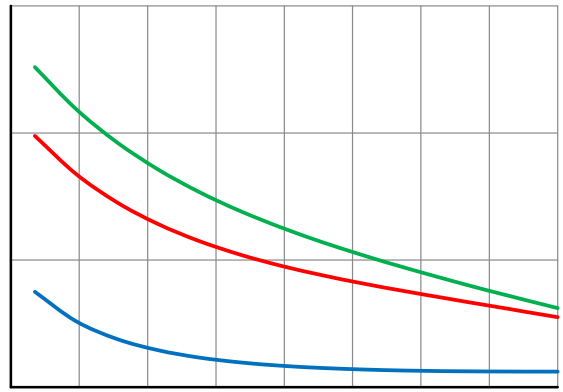
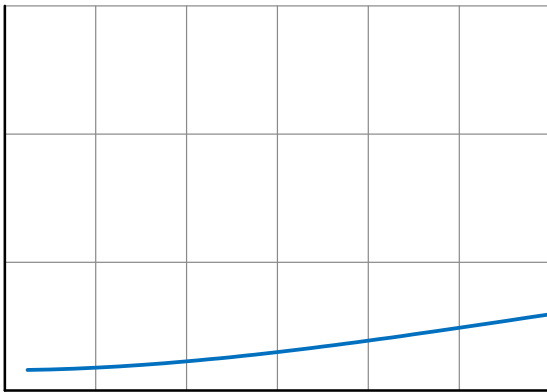


Figure 15. Switching Off Loss vs. Gate Resistance $V_{DS} = 800\text{ V}$



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TYPICAL CHARACTERISTICS M1/M2 SIC MOSFET CHARACTERISTIC

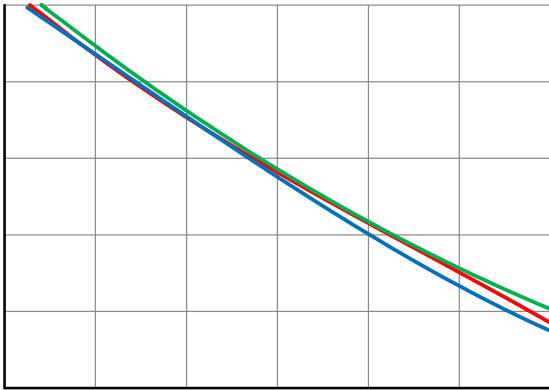


Figure 20. di/dt Turn Off vs. Drain Current
 $V_{DS} = 800 \text{ V}$

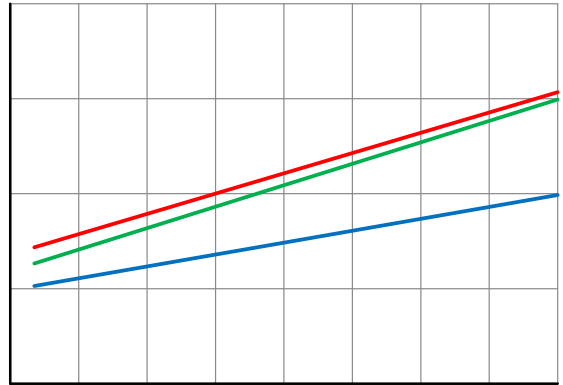


Figure 21. di/dt Turn Off vs. Gate Resistance
 $V_{DS} = 800 \text{ V}$

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TYPICAL CHARACTERISTICS M1/M2 SIC MOSFET CHARACTERISTIC

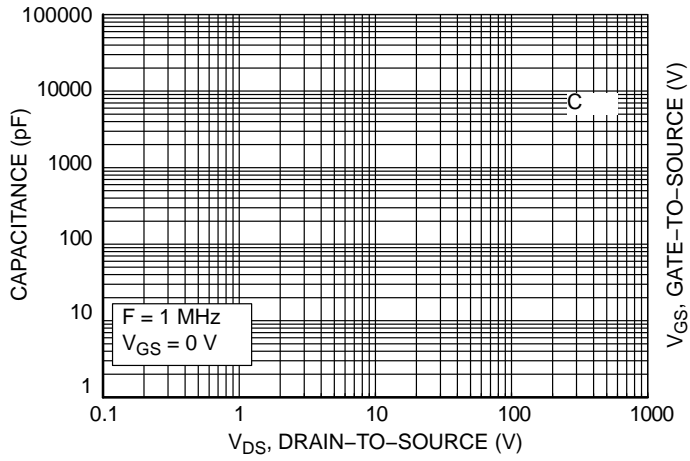


Figure 26. Capacitance vs. Drain-to-Source Voltage

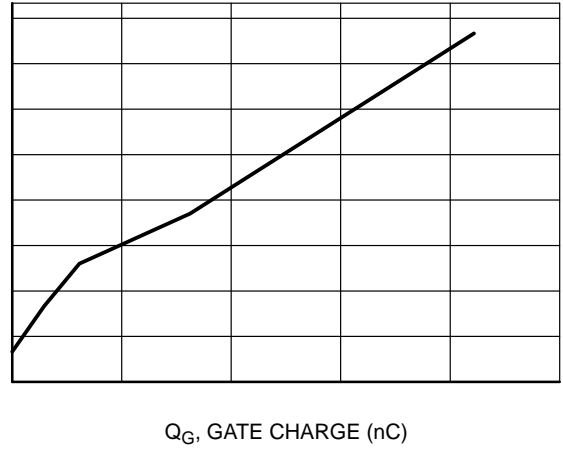


Figure 27. Gate-to-Source Voltage vs. Gate Charge

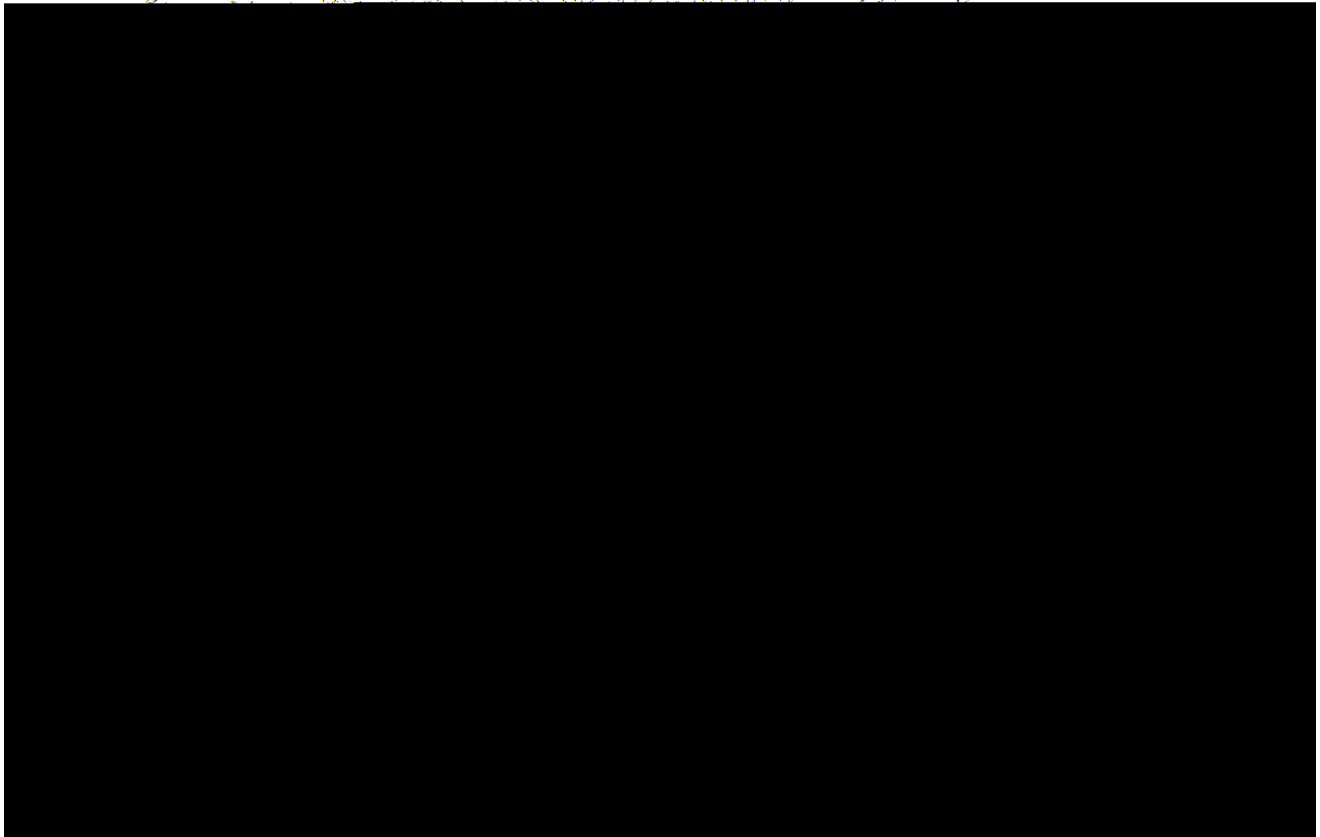
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Table 1. CAUER NETWORKS

Cauer Element #	Rth (K/W)	Cth (Ws/K)
1	0.0004413	0.0013801
2	0.0029539	0.0003074
3	0.0066160	0.0005317
4	0.0326540	0.0026575
5	0.0988730	0.0081213
6	0.1850100	0.0419900
7	0.0817340	1.1620000

PIN POSITION INFORMATION

scale = 2.5 : 1



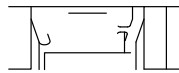
PIM18 33.8x42.5 (PRESS FIT)
CASE 180BW
ISSUE B

DATE 30 APR 2021

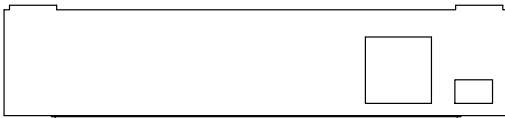
5
17.00

53.10
63.5

2.40



**GENERIC
MARKING DIAGRAM***



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