WM3HA330090E

N-Channel SiC Power MOSFET

V_{DS}	=	900	V
$R_{DS(on)}$	=	250	mΩ
I_D@25	=	12.5	A

G3 MOSFET Technology

Features

-
-
-
-

Package

Electrical Characteristics (T_C=25 unless otherwise specified)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions	Note
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	900	/	/	V	V_{GS}=0V, I_D=100μA	
$V_{GS(th)}$	Gate Threshold Voltage	2.4 /	3.2 2.4	4.0 /	V	V_{DS}=V_{GS}, I_D=1.4mA V_{DS}=V_{GS}, I_D=1.4mA, T_J=175	Fig. 11
I_{DSS}	Zero Gate Voltage Drain Current	/	1	10	μA	V_{DS}=900V, V_{GS}=0V	
I_{GSS+}	Gate-Source Leakage Current	/	10	50	nA	V_{DS}=0V, V_{GS}=23V	
I_{GSS-}	Gate-Source Leakage Current	/	10	50	nA	V_{DS}=0V, V_{GS}=-10V	
$R_{DS(on)}$	Drain-Source On-State Resistance						

Thermal Characteristics

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
$R_{\theta JC}$	Thermal Resistance from Junction to Case	3.5	/	/W		
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	/	40			

Typical Performance

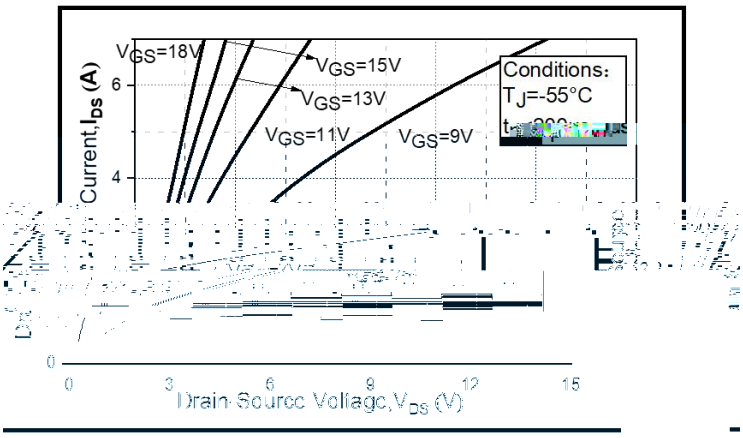

Figure 1. Output Characteristics T_J = -55

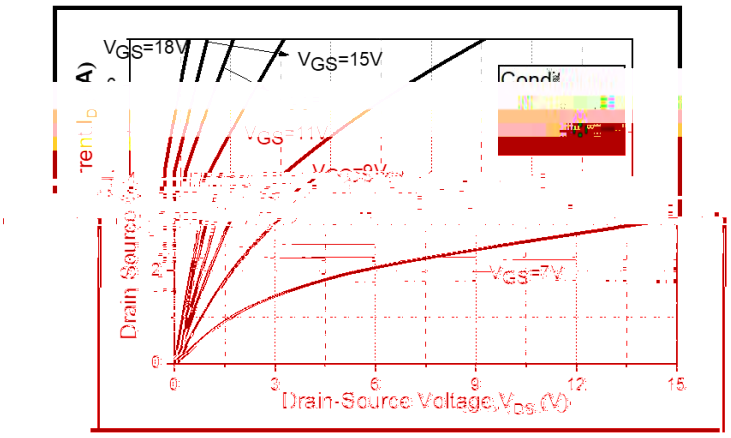

Figure 2. Output Characteristics T_J = 25

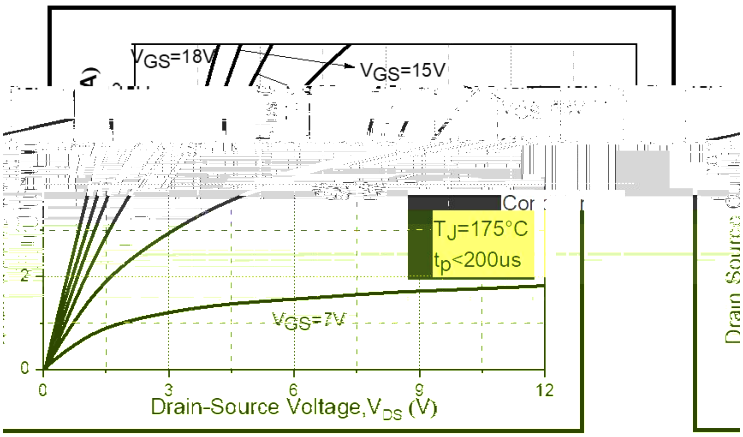

Figure 3. Output Characteristics T_J = 175

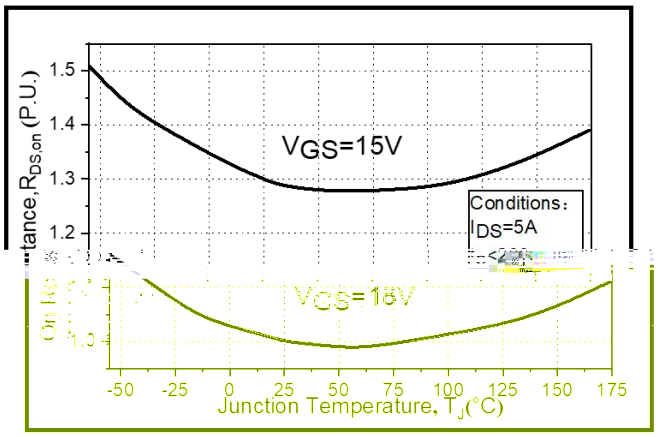

Figure 4. Normalized On-Resistance vs. Temperature

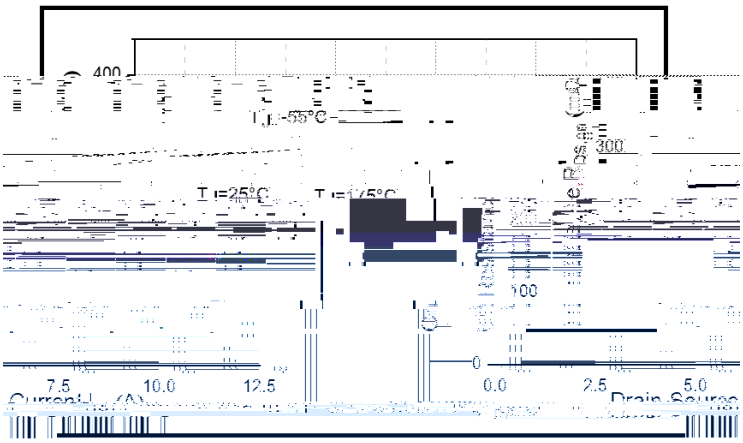

Figure 5. On-Resistance vs. Drain Current For Various Temperatures

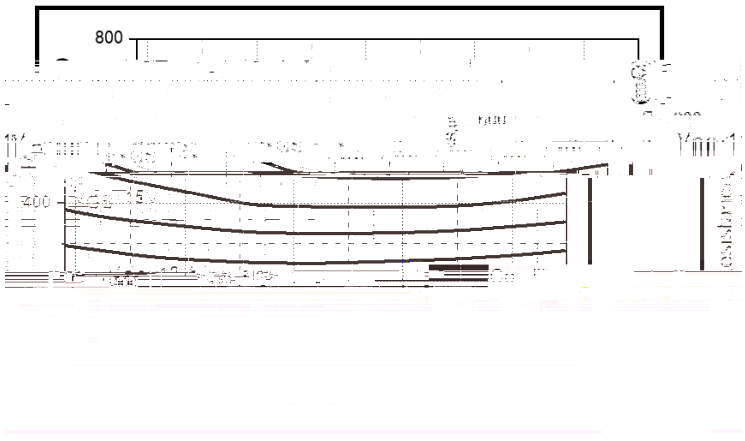

Figure 6. On Resistance vs. Temperature For Various Gate Voltage

Typical Performance

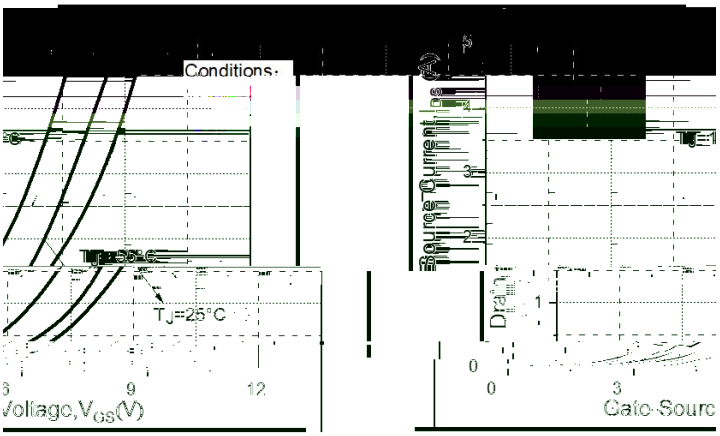

Figure 7. Transfer Characteristic for Various Junction Temperatures

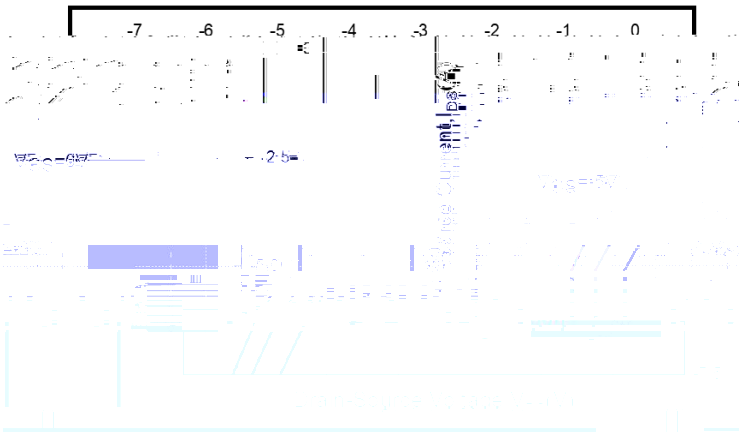

Figure 8. Body Diode Characteristic at -55

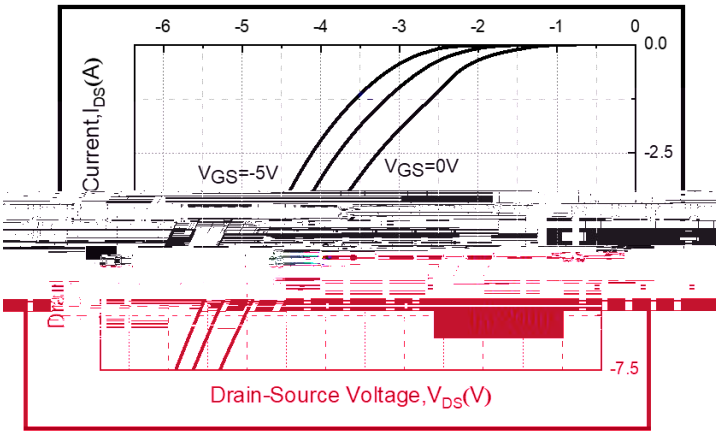

Figure 9. Body Diode Characteristic at 25

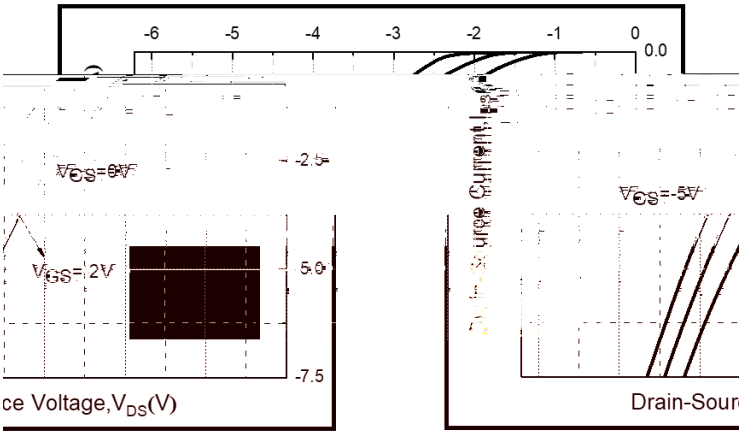

Figure 10. Body Diode Characteristic at 175

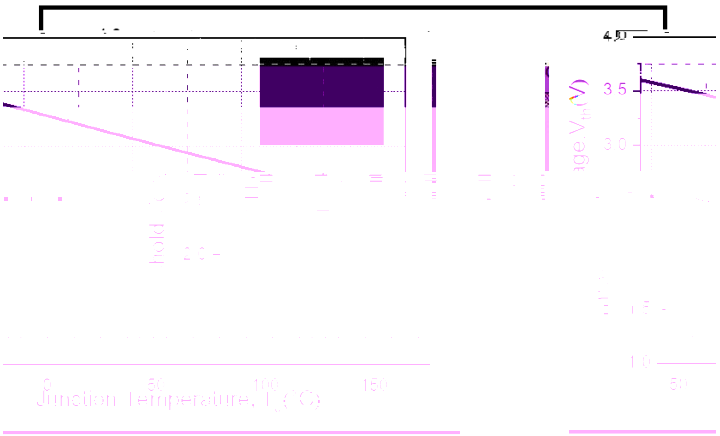

Figure 11. Threshold Voltage vs. Temperature

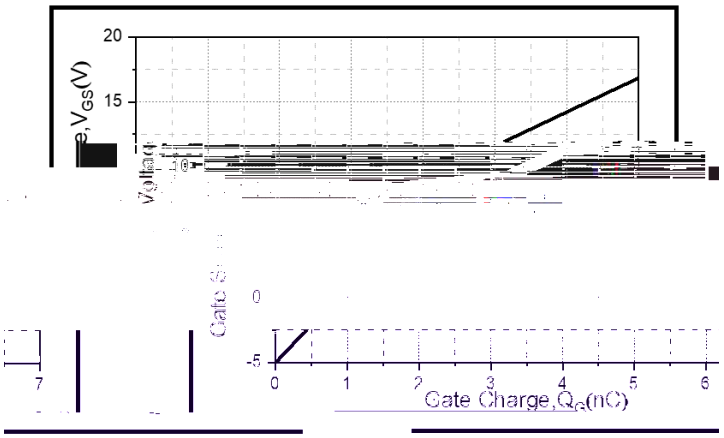

Figure 12. Gate Charge Characteristics

Typical Performance

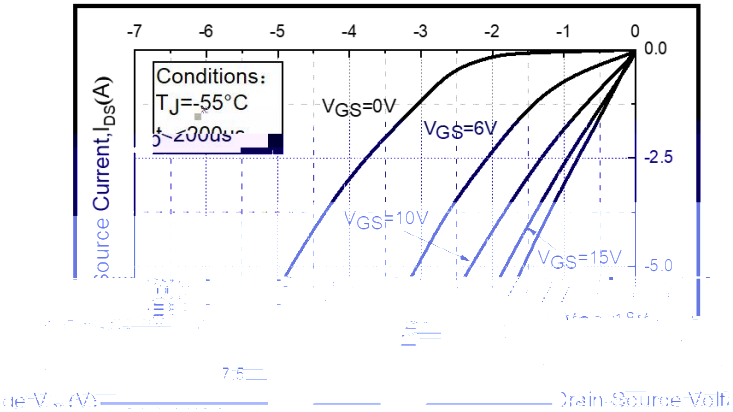

Figure 13. 3rd Quadrant Characteristic at -55

Typical Performance

Test Circuit Schematic

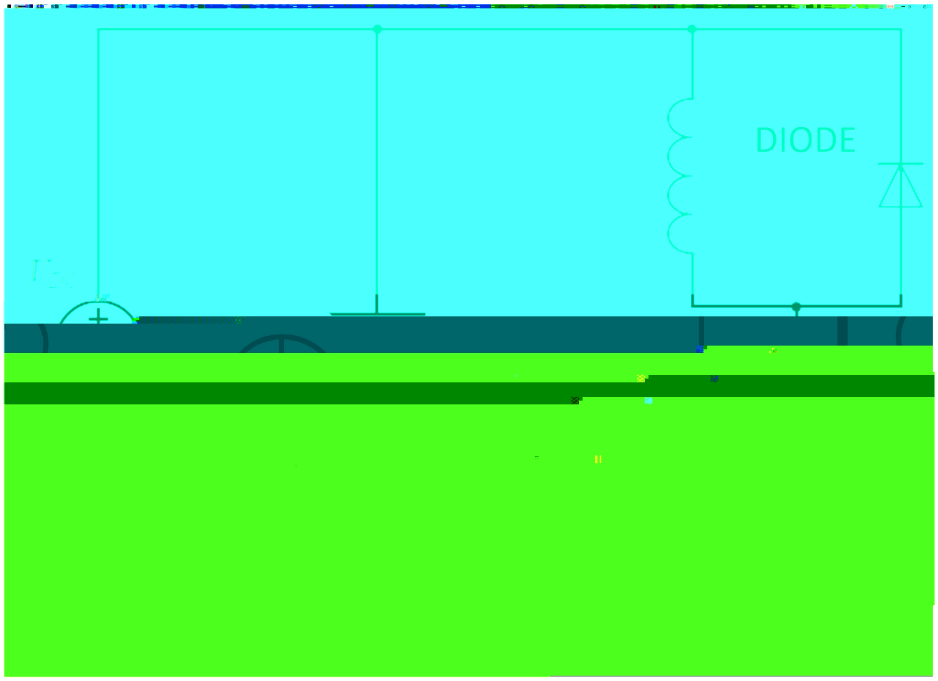

Figure 23. Clamped Inductive Switching Waveform Test Circuit

Package Dimensions

