S3M009075NK-A

TriQSiC™750V Silicon Carbide Power MOSFET G3 N Channel Enhancement witching

Features

- High speed switching
- Very low switching losses
- High blocking voltage with low on-resistance
- Temperature independent turn-off switching losses
- Halogen free, RoHS compliant

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2. : .

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Datasheet

Q_{gs}	Gate source charge	-	60	-	nC	V_{DS} = 500V, V_{GS} = -4/+18V I_D = 100A	Fig.12
Q_{gd}	Gate drain charge	-	42	-			
Q_g	Gate charge	-	195	-			

2.3 Switching characteristics

Table 6 Dynamic characteristics(Tc = 25°C unless otherwise specified,the data comes from TO-247-4L)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions	Note
E_{on}	Turn on switching energy	-	980	-	μJ	V_{DS} = 500V, V_{GS} = -4/+18V I_D = 100A, Rg = 2.5Ω, L = 16.7μH	
E_{off}	Turn off switching energy	-	831	-			
$t_{d\ on}$	Turn on delay time	-	36	-	ns		
t_r	Rise time	-	43	-			
$t_{d\ off}$	Turn off delay time	-	83	-			
t_f	Fall time	-	13	-			

Table 7 Body î

3 Electrical characteristic diagrams

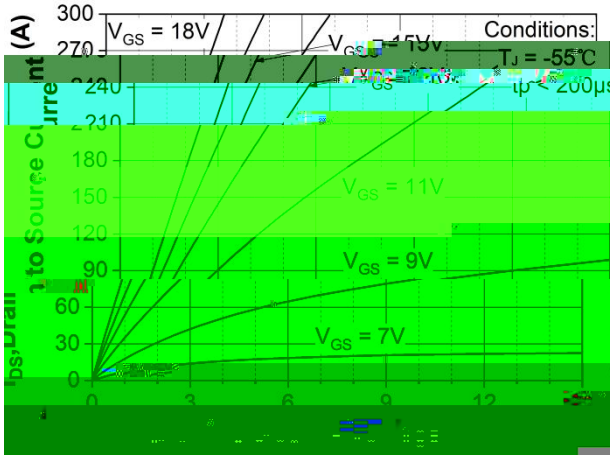


Figure 1. Output characteristics T_J = -55 ºC

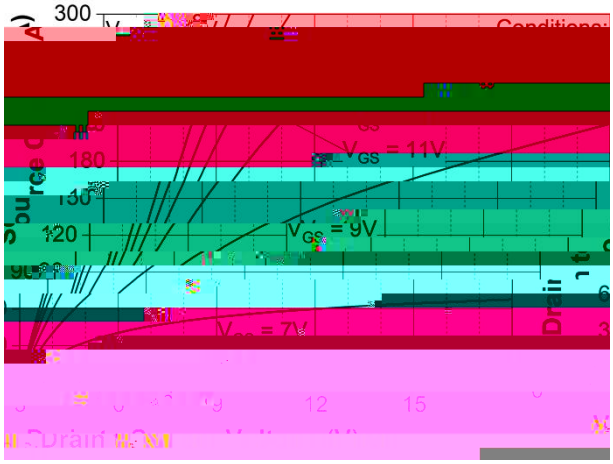


Figure 2. Output characteristics T_J = 25 ºC

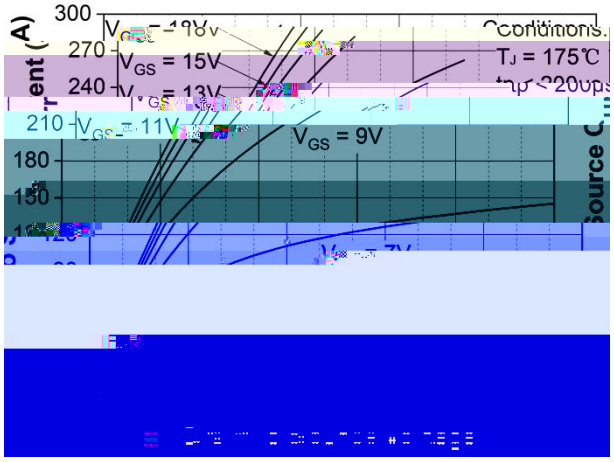


Figure 3. Output characteristics T_J = 175 ºC

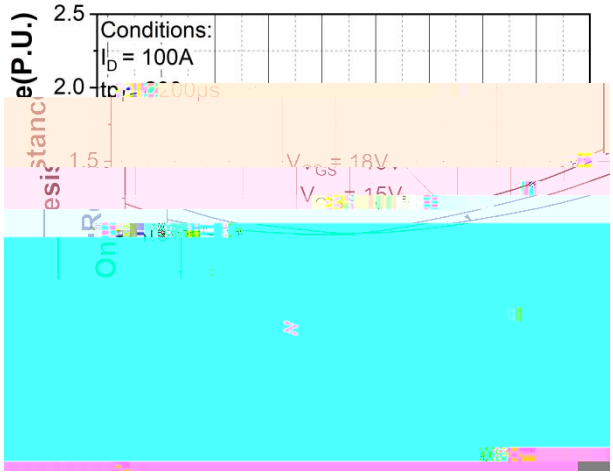


Figure 4. Normalized on-resistance vs. temperature

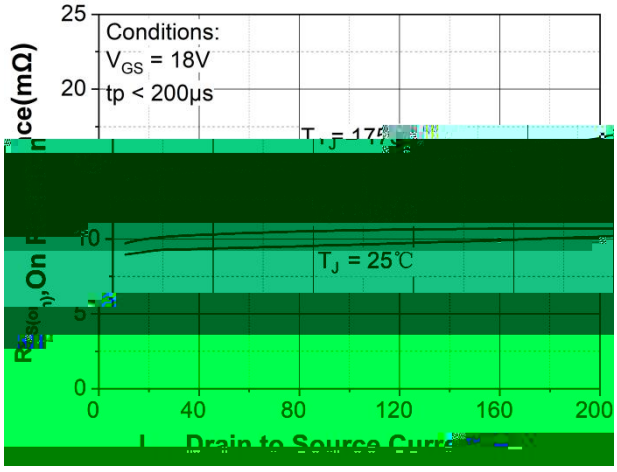


Figure 5. On-resistance vs. drain current for various temperatures

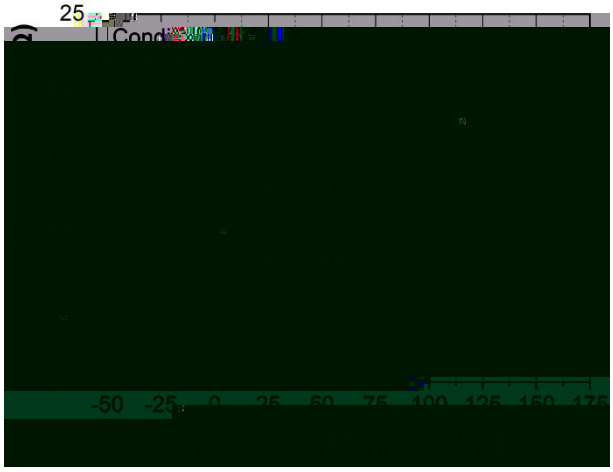


Figure 6. On-resistance vs. temperature for various gate voltages

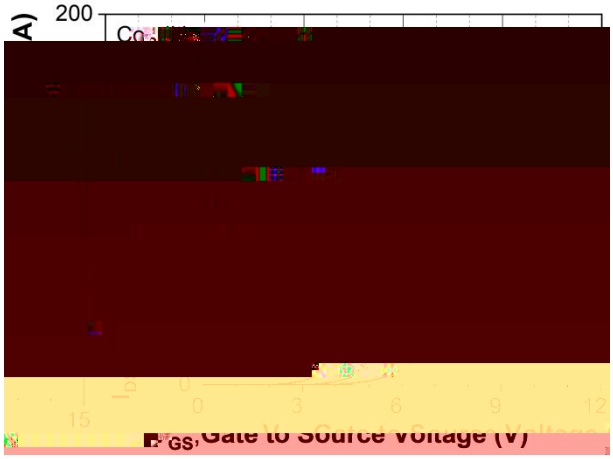


Figure 7. Transfer characteristic for various junction temperatures

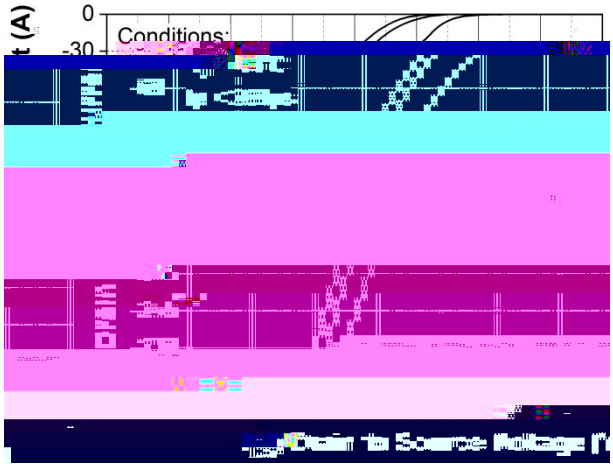


Figure 8. Body diode characteristic at T_J = -55 ºC

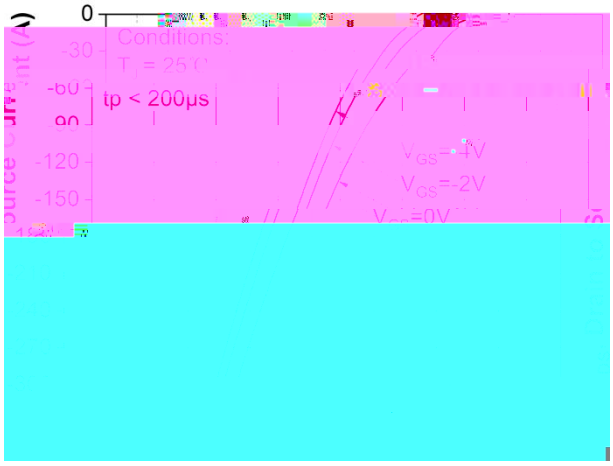


Figure 9. Body diode characteristic at T_J = 25 ºC



Figure 10. Body diode characteristic at T_J = 175ºC

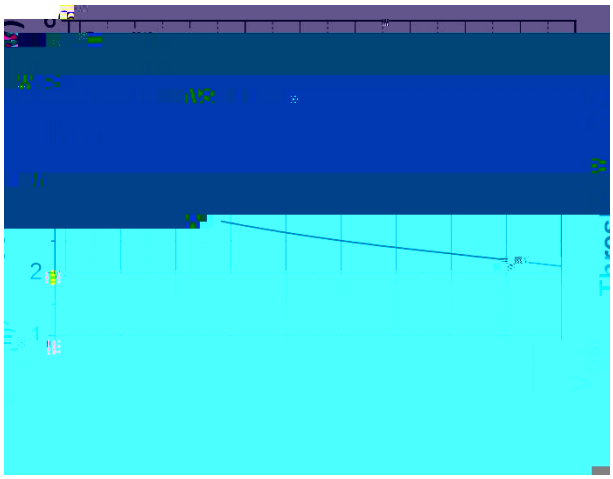


Figure 11. Threshold voltage vs. temperature

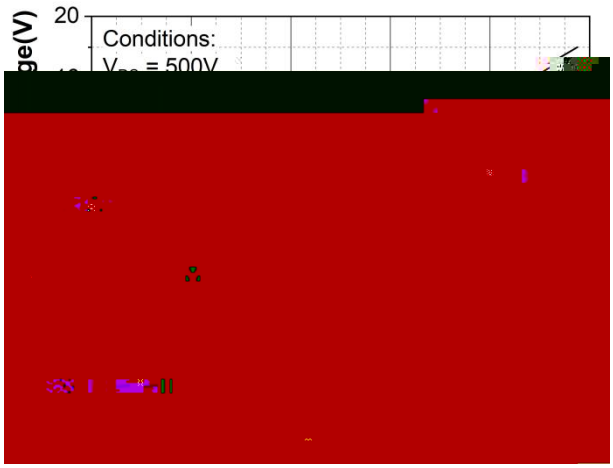


Figure 12. Gate charge characteristic

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Datas

4 Mechanical parameters

4.1 Dimensions and metallization

Parameter	Typical value	Unit	Metallization
Die size W x L	5 * 5	mm	
Gate pad size W x L	0.78 * 0.68	mm	
Source pad size W x L	1.9 * 3.1	mm	
Kelvin pad size W x L	1.		

S3M0 5NK-A

750V SiC

Revision history

Document version	Date of release	Document stage	Description of changes
V01_00	2026-06-26	Final	——

Attention

1. **RoHS compliance**

The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2011/65/ EC (RoHS2), as implemented January 2, 2013.

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