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For Further Growth Together

TENTATIVE

MN1222G2

SiC MOSFET

Features

- Silicon Carbide MOSFET
- High-switching Speed

Applications

- Switch mode power supplies
- DC-DC
- Solar Inverters
- UPS

Maximim Ratings (Ta=25℃)

Parameter	Symbol	Value	Unit
Drain - Source voltage	V_{DSS}	1200	V
Drain current (DC)	I_D	22	A
Gate - Source voltage (DC)	V_{GSS}	-6 to +22	V
Junction temperature	T_j	175	℃
Storage temperature	T_{stg}	-55 to +175	℃

Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Drain - Source breakdown voltage	V_{DSS}	V_{GS}=0V, I_D=1mA	1200	-	-	V
Zero Gate voltage Drain current	I_{DSS}	V_{GS}=0V, V_{DS}=1200V	-	1	10	uA
Gate - Source leakage current	I_{GSS+}	V_{GS}=+22V, V_{DS}=0V	-	-	100	nA
	I_{GSS-}	V_{GS}=-6V, V_{DS}=0V	-	-	-100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=2.5mA	1.6	2.8	4.0	V
Drain - Source on resistance	$R_{DS(ON)}$	V_{GS}=18V, I_D=7A	-	80	208	mΩ

Body diode electrical characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V_{SD}	V_{GS}=0V, I_S=7A	-	3.6	-	V

Electrical Characteristics curves

Fig.1 Typical Output Characteristics

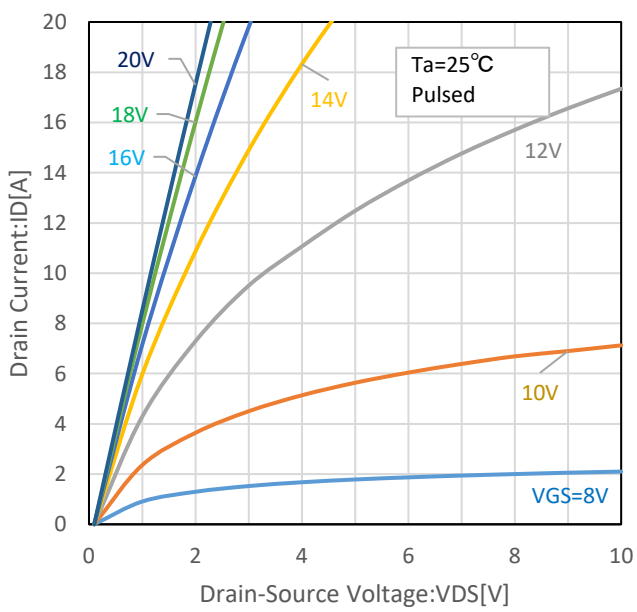


Fig.2 Typical Output Characteristics

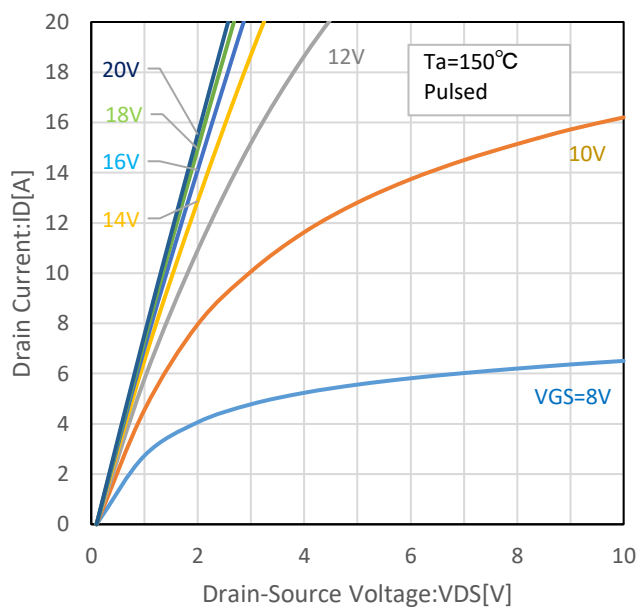


Fig.3 Typical Transfer Characteristics

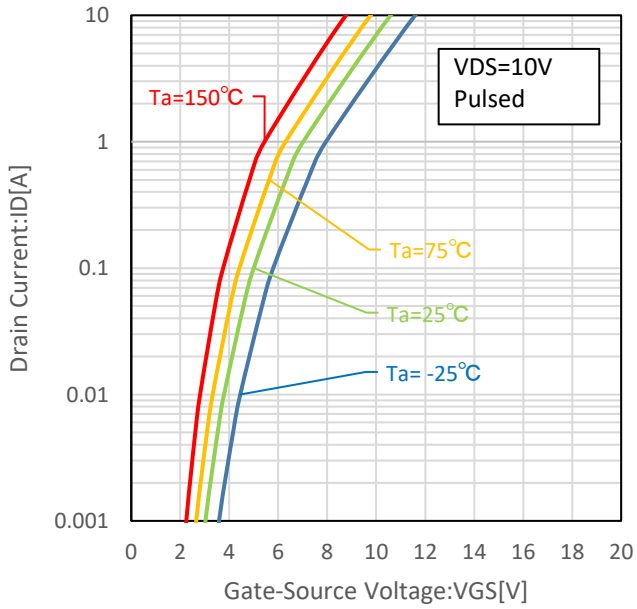
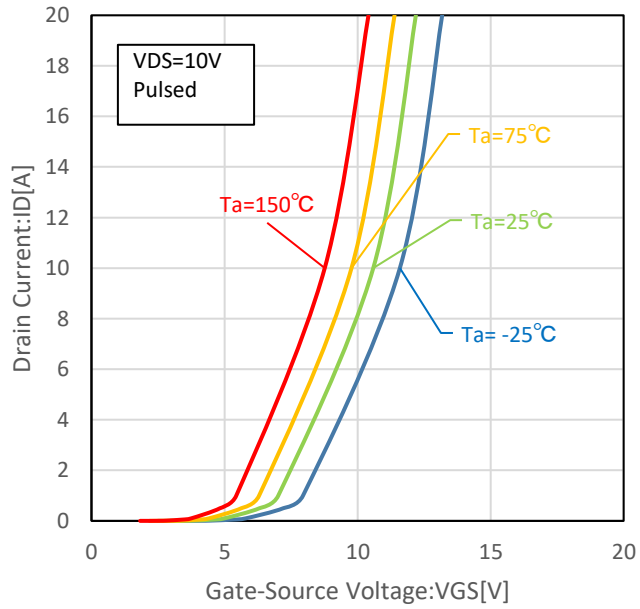


Fig.4 Typical Transfer Characteristics



Electrical Characteristics curves

Fig.5 Static Drain On-State Resistance vs Gate Source Voltage

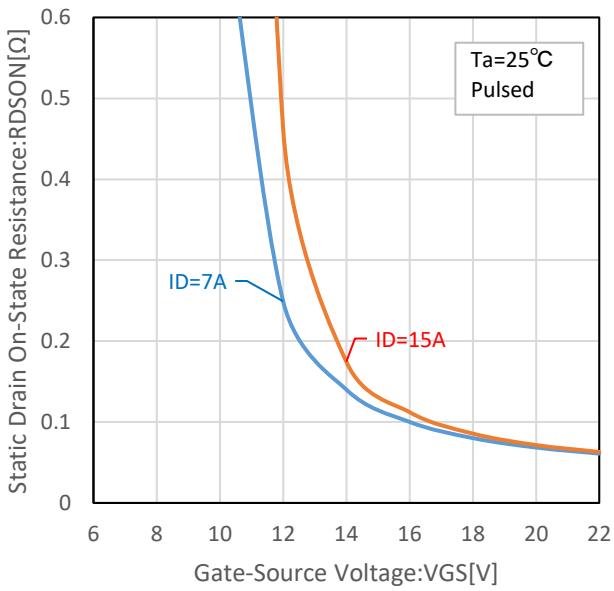


Fig.6 Static Drain - Source On-State Resistance vs Drain Current

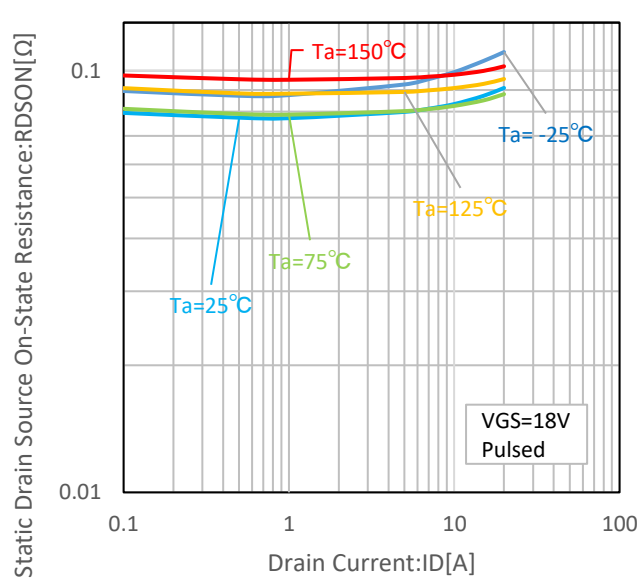
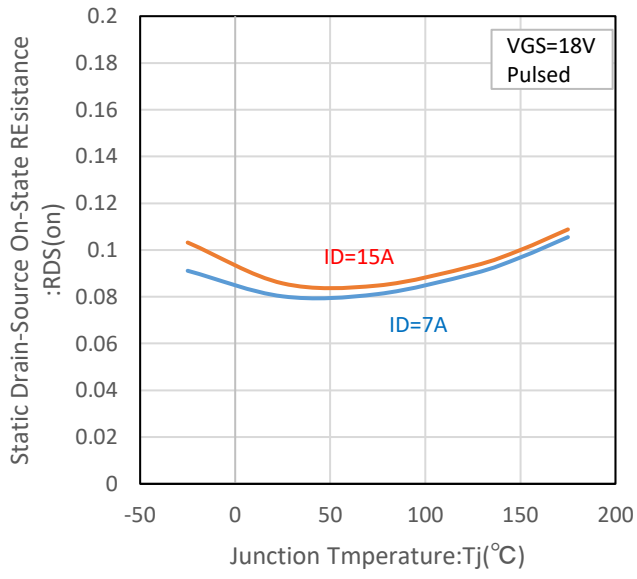


Fig.7 Static Drain-Source On-State Resistance vs Junction Temperature



Electrical Characteristics curves

Fig.8 Inverse Diode Foward Current vs Source Drain Voltage

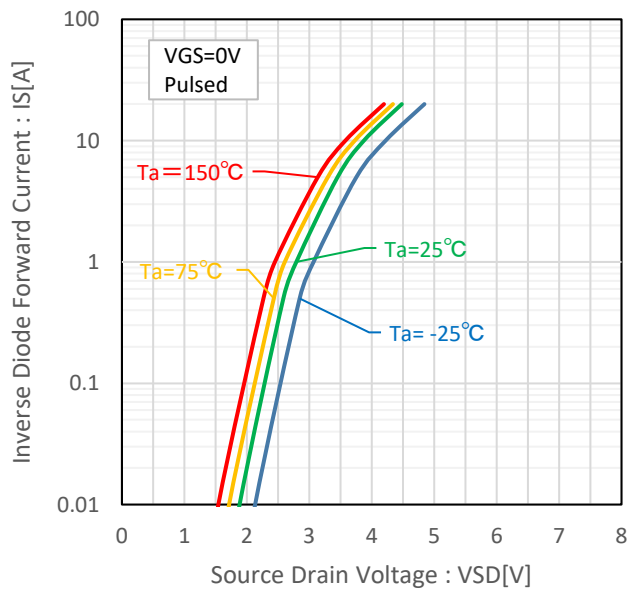
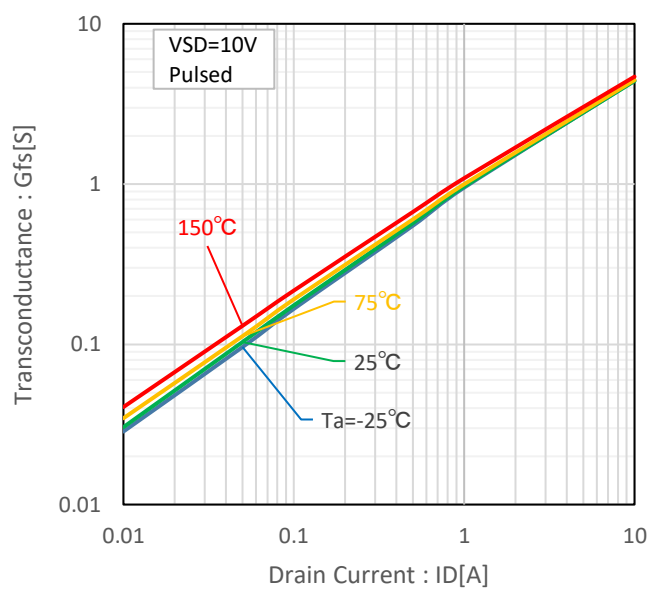


Fig.9 Transconductance vs Drain Current



NOTE

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2 ） Please request for the specification sheet before use.

3 ） Since the products are in wafer form, the values in this document are for reference only.

4 ） Although we strive to improve the quality of our products, they may malfunction or fail. When using this product, please implement a safety design suitable for the system within your responsibility.

5 ） Although this document has been prepared with great care, we assume no responsibility for any damages incurred due to errors in the provoded information.

6 ） If the operating environment (e.g., high temperature, high voltage, high current) is severe, the reverse current may become excessively large and the device may be destroyed due to the increased reverse

7 ） The absolute maximum ratings must not be exceeded even momentarily. Do not exceed the absolute maximum ratings for any of the multiple ratings.

8 ） In particular, when evaluating or using the product in a resin-encapsulated package or in a sealed environment, be sure to measure the temperature and confirm that the maximum junction temperature designated as the maximum ratings is not exceeded.

9 ） The products described in this document are intended for use in general electronic equipment (e.g., AV equipment, OA equipment, home appliances).

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