

4N60

产品说明书

Specification Revision History:

Version	Date	Description
V1.0	2018/04	New
V1.1	2022/01	Modify Ordering Information
V1.2	2025/02	Modify Ordering Information
V1.3	2025/03	Add application precautions and overall typesetting.

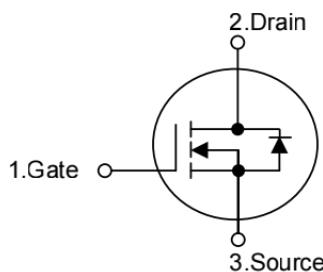
DESCRIPTION

The 4N60 is a high voltage MOSFET and is designed to have better characteristics, such as fast switching time, low gate charge, low on-state resistance and have a high rugged avalanche characteristics. This power MOSFET is usually used at high speed switching applications in power supplies, PWM motor controls, high efficient DC to DC converters and bridge circuits.

FEATURES

- * $R_{DS(ON)} = 2.7\Omega$ @ $V_{GS} = 3V$
- * Ultra Low Gate Charge (typical 15 nC)
- * Low Reverse Transfer CAPACITANCE ($C_{RSS} =$ typical 8.0 pF)
- * Fast Switching Capability
- * Avalanche Energy Specified
- * Improved dv/dt Capability, high Ruggedness

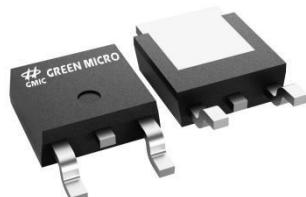
SYMBOL



The appearance of the product



TO-220F



TO-252

Ordering Information

Product Model	Package Type	Marking	Packing	Packing Qty
GM4N60GT	TO-220F	4N60 B82	TUBE	1000PCS/BOX
GM4N60GR	TO-252	4N60 B82	REEL	2500PCS/REEL
4N60GT	TO-220F	4N60 G282	TUBE	1000PCS/BOX
4N60GR	TO-252	4N60 GB82	REEL	2500PCS/REEL

Electrical Characteristics (TJ =25°C)

Parameter	Description	Min.	Typ.	Max.	Unit	Test Condition
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	650			V	$V_{GS}=0V, I_D=250\mu A$
$R_{DS(ON)}$ (Note2)	Static Drain-Source On-Resistance		2.7	3.1	Ω	$V_{GS}=10V, I_D=2A$
$V_{GS(th)}$	Gate Threshold Voltage	2	3	4	V	$V_{DS}=V_{GS}, I_D=250\mu A$
I_{DSS}	Drain-to-Source Leakage Current	—	—	1	μA	$V_{DS}=650V, V_{GS}=0V$
I_{GSS}	Gate-Body Leakage Current	—	—	± 100	nA	$V_{DS}=0V, V_{GS}=\pm 30V$
V_{sd}	Drain-Source Diode Forward Voltage	—	—	1.2	V	$V_{GS}=0V, I_S=4A$
T_J, T_{STG}	Operating and Storage Temperature Range					-55°C to 150°C Max

TEST CIRCUITS AND WAVEFORMS

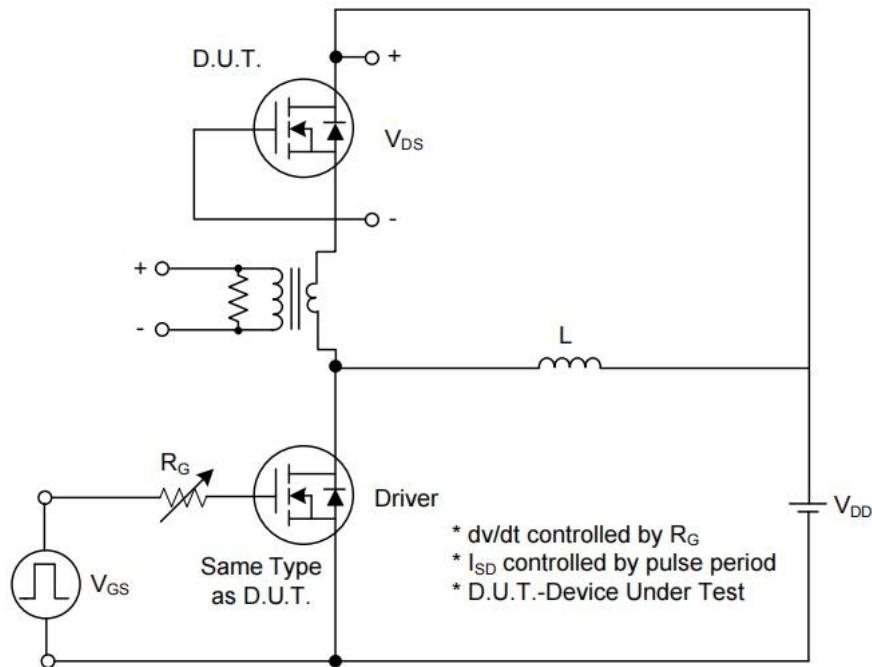


Fig. 1A Peak Diode Recovery dv/dt Test Circuit

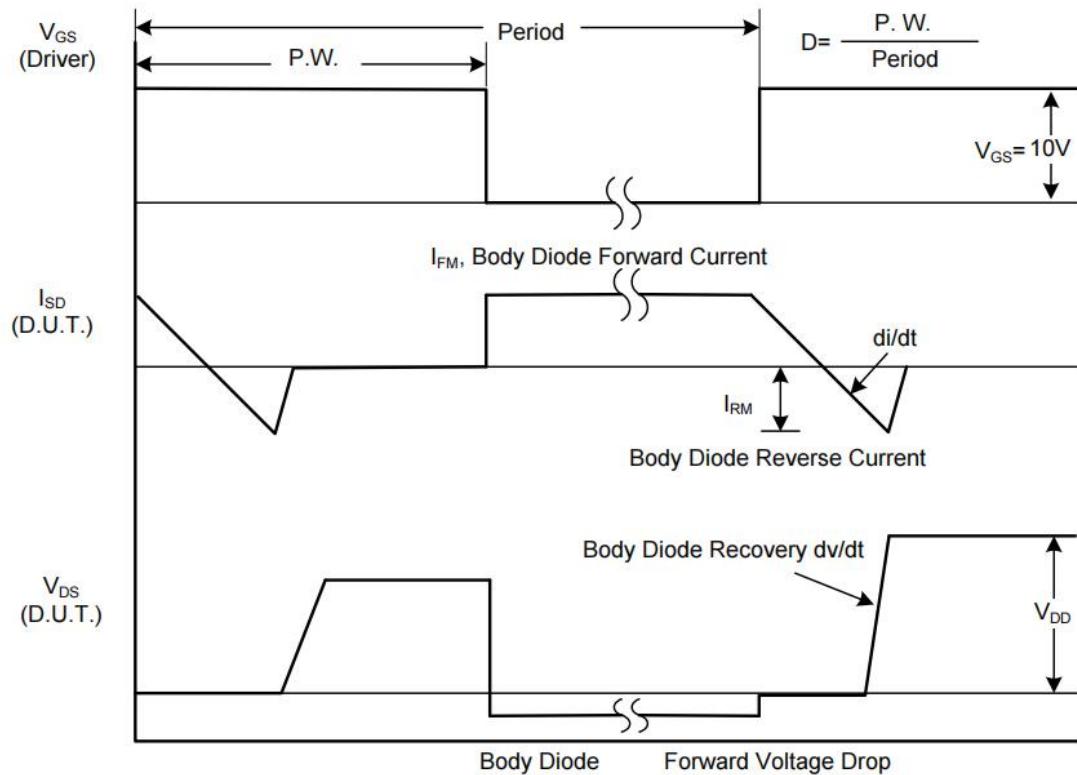


Fig. 1B Peak Diode Recovery dv/dt Waveforms

TEST CIRCUITS AND WAVEFORMS (Cont.)

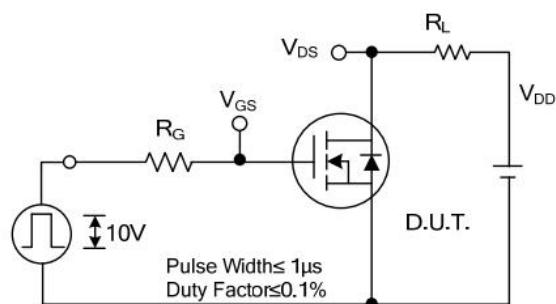


Fig. 2A Switching Test Circuit

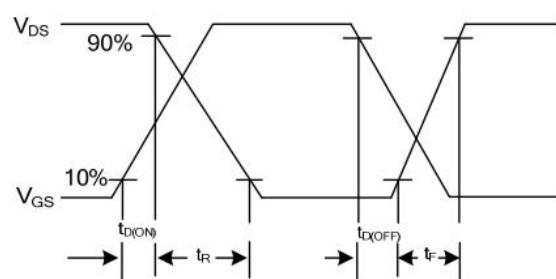


Fig. 2B Switching Waveforms

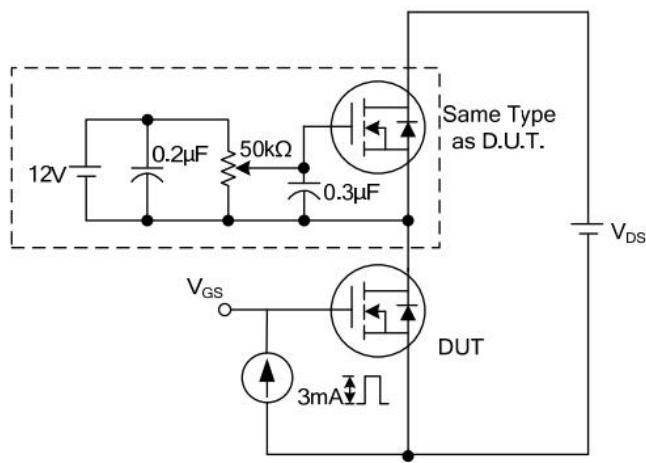


Fig. 3A Gate Charge Test Circuit

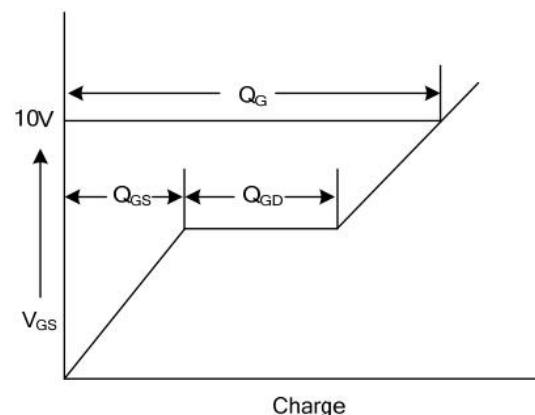


Fig. 3B Gate Charge Waveform

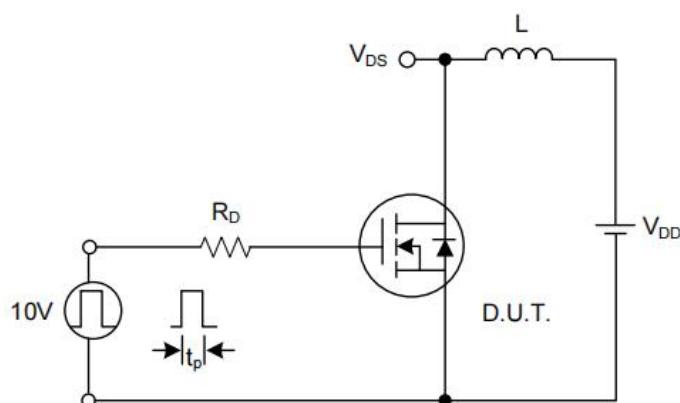


Fig. 4A Unclamped Inductive Switching Test Circuit

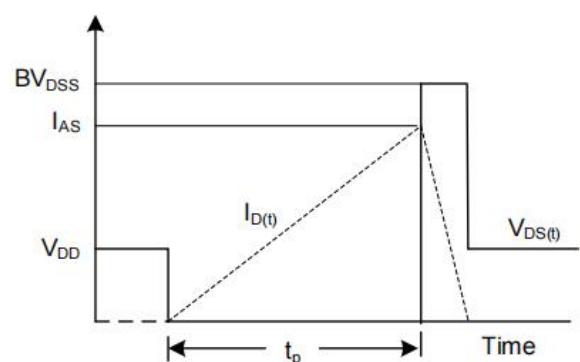
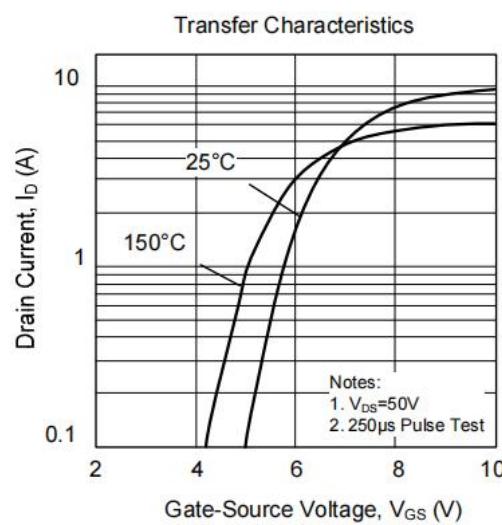
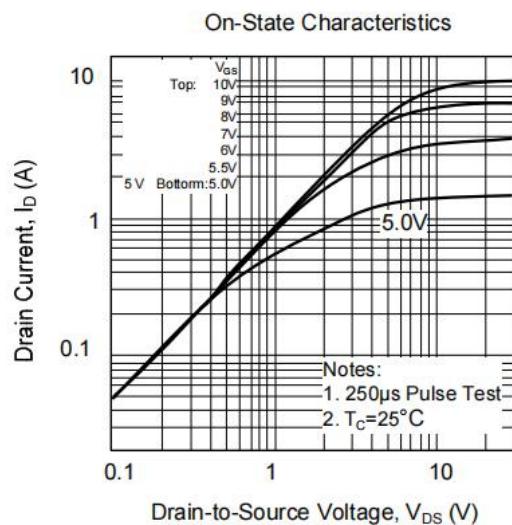
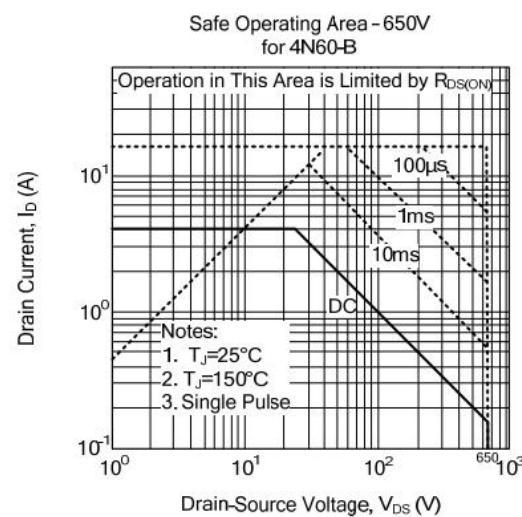
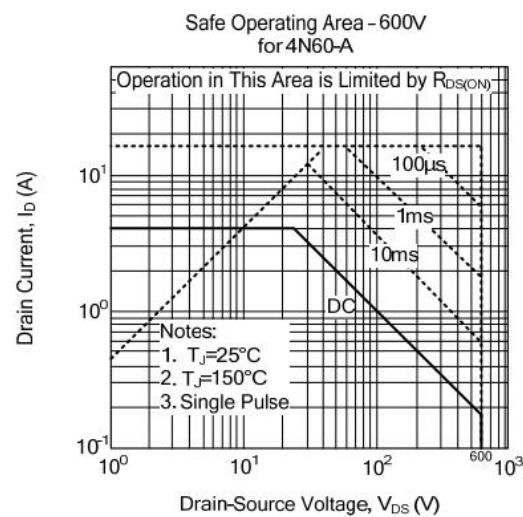
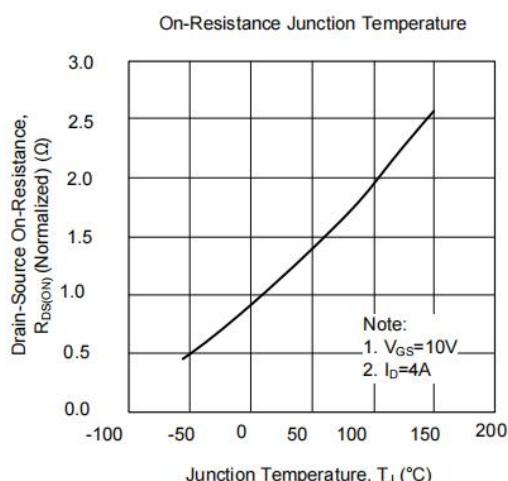
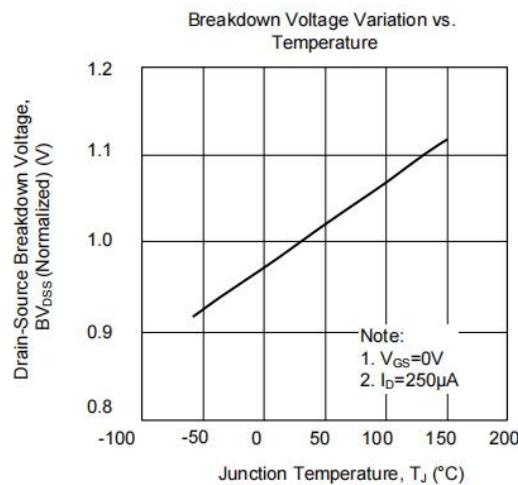
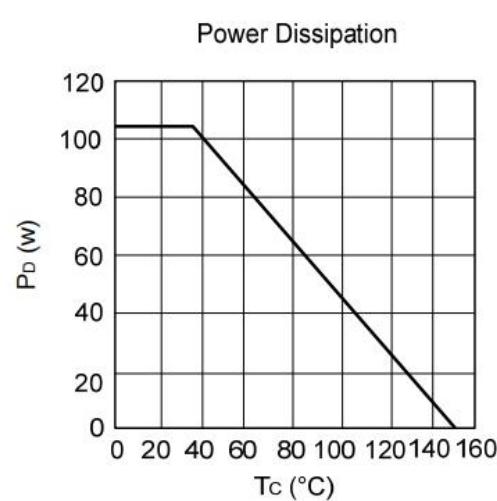
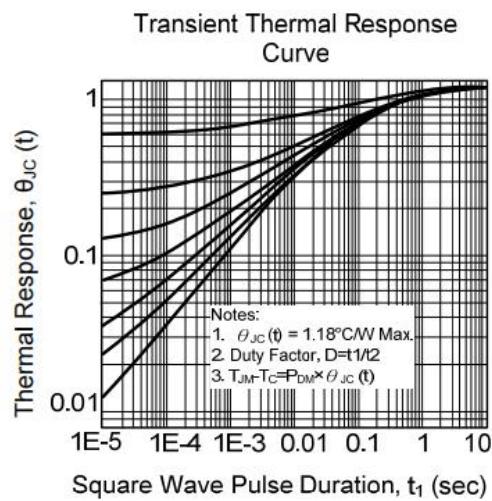
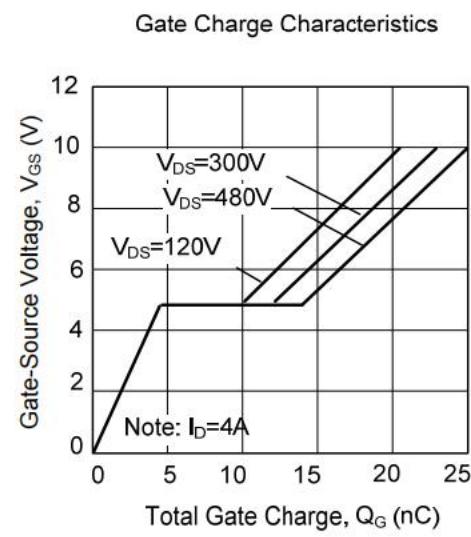
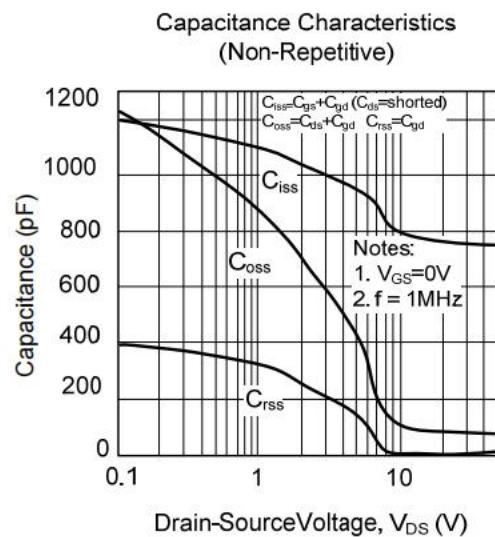
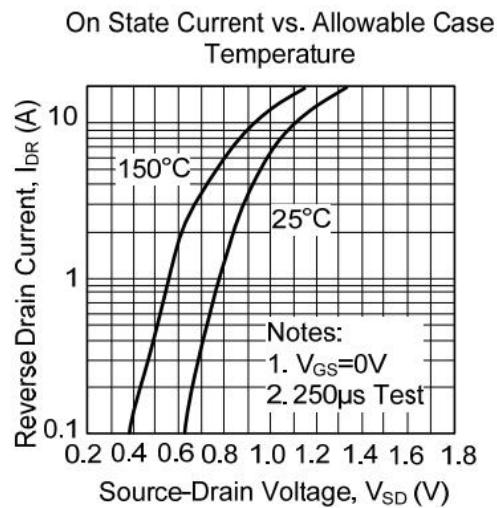
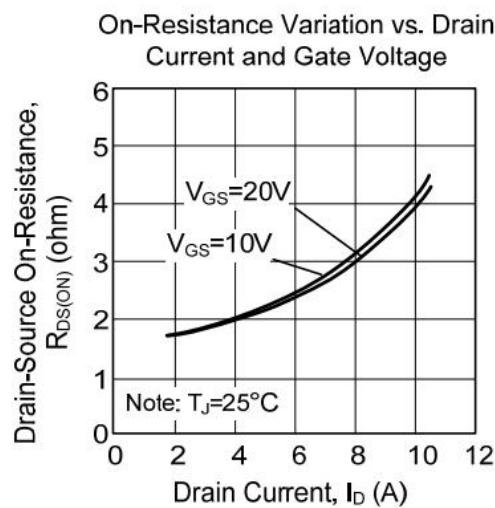


Fig. 4B Unclamped Inductive Switching Waveforms

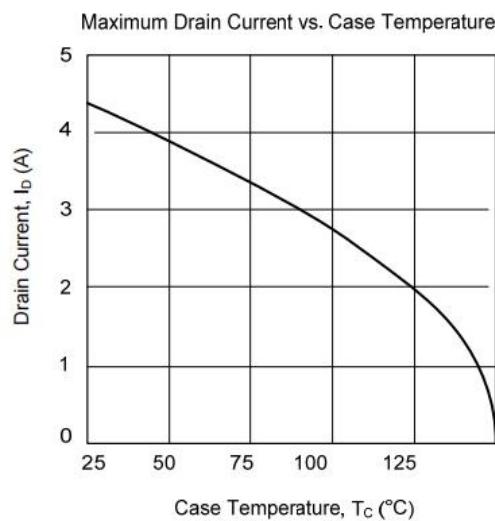
TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS(Cont.)



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