

PWM360P06NQA

60V P-Channel MOSFET

-6.5A -60V; $R_{DS(ON)typ}=28m\Omega@-10V$,

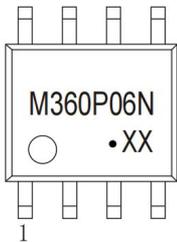
FEATURE

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- Low Gate Resistance
- 100% UIS Tested

Application

- Power Switching Application

MARKING:

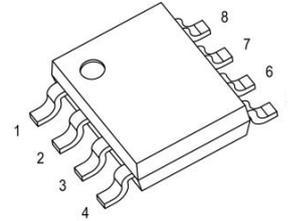


M360P06N = Device Code

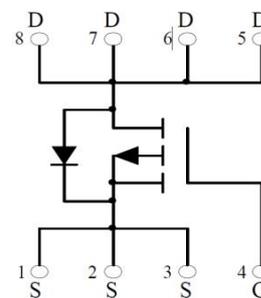
XX = Date Code

Solid Dot = Green Indicator

SOP8



Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain - Source Voltage	V_{DS}	-60	V
Gate - Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ¹	I_D	-15	A
Continuous Drain Current ⁴	I_D	-6.5	A
Pulsed Drain Current ²	I_{DM}	-30	A
Power Dissipation ⁴	P_D	1.4	W
Thermal Resistance from Junction to Ambient ⁴	$R_{\theta JA}$	89	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

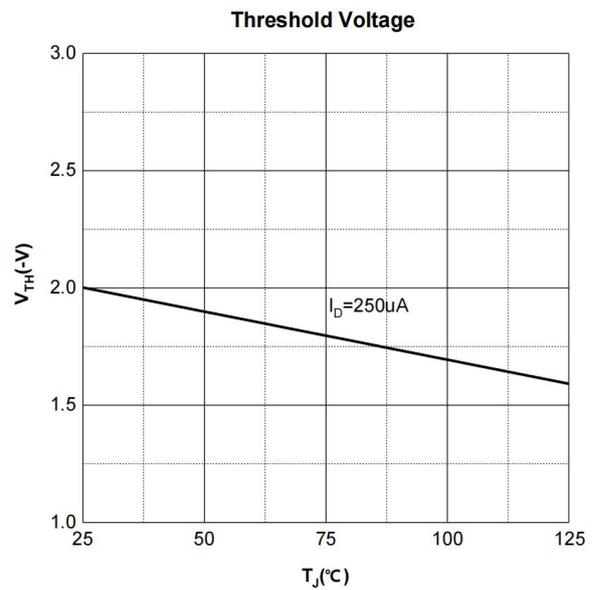
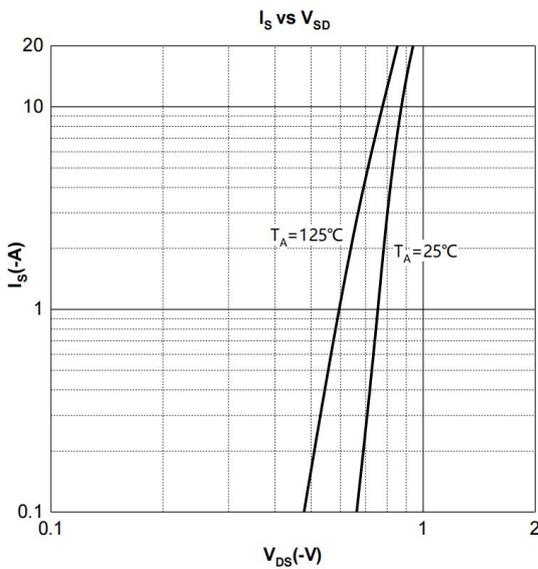
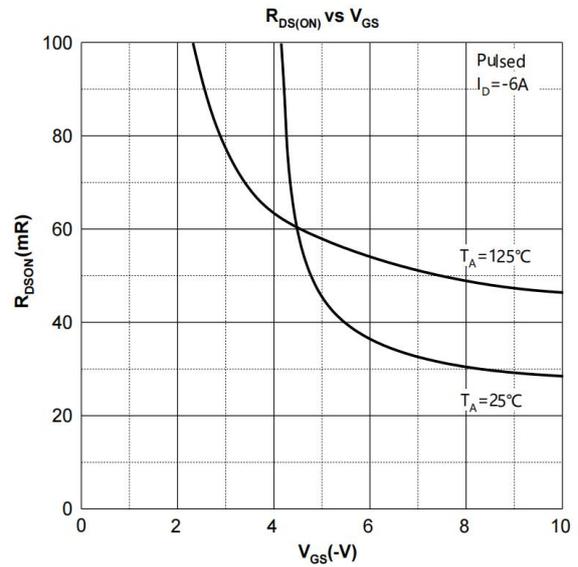
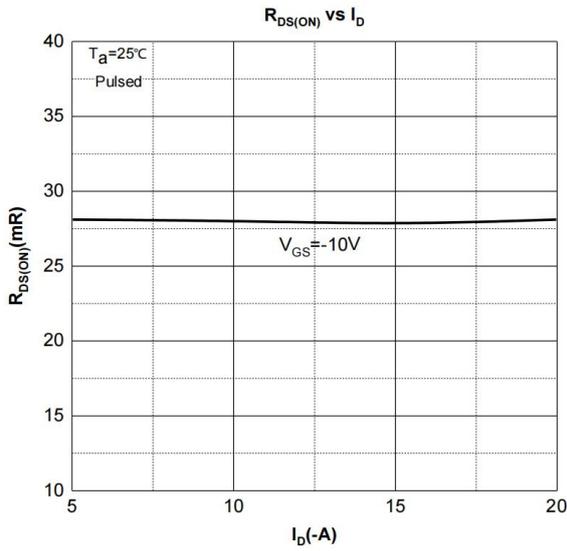
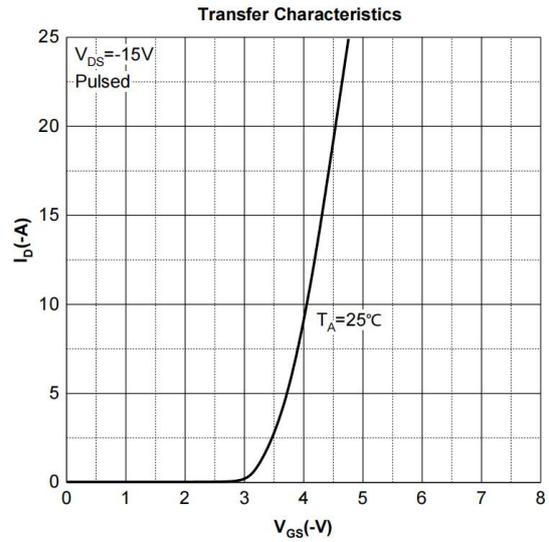
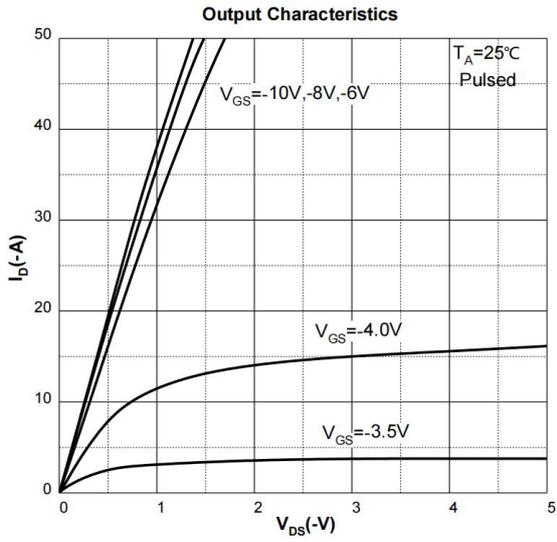
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

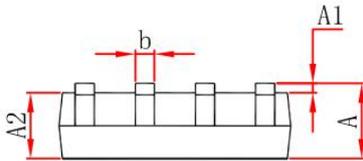
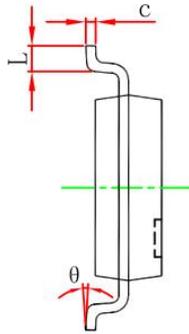
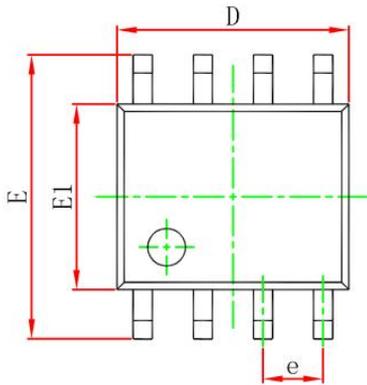
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
OFF CHARACTERISTICS						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -48V, V _{GS} = 0V			-1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
ON CHARACTERISTICS³						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1.0	-2.0	-3.0	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -6A		28	36	mΩ
Forward Transconductance	g _{FS}	V _{DS} = -10V, I _D = -6A		16		S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	V _{DS} = -30V, V _{GS} = 0V, f = 1MHz		3285		pF
Output Capacitance	C _{oss}			170		
Reverse Transfer Capacitance	C _{rss}			161		
Gate Resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		5		Ω
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q _g	V _{DS} = -30V, V _{GS} = -10V, I _D = -6A		48		nC
Gate-source Charge	Q _{gs}			14		
Gate-drain Charge	Q _{gd}			18		
Turn-on Delay Time	td(on)	V _{DD} = -30V, V _{GS} = -10V, R _L = 3Ω R _G = 3Ω		17.5		ns
Turn-on Rise Time	tr			24		
Turn-off Delay Time	td(off)			35		
Turn-off Fall Time	tf			40		
SOURCE-DRAIN DIODE CHARACTERISTICS						
Diode Forward Voltage ³	V _{SD}	V _{GS} = 0V, I _S = -6A			-1.2	V

Notes :

- 1.Pulse Test : Pulse Width ≤ 300 μ s, duty cycle ≤ 2%.
- 2.Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°