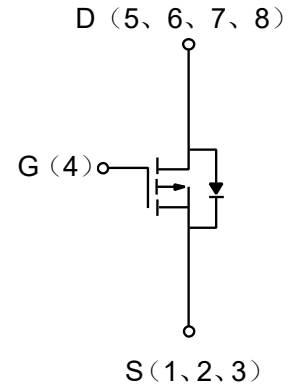


Description

The enhancement mode MOS is extremely high density cell and low on-resistance.

MOSFET Product Summary		
V _{DS} (V)	R _{DS(on)} (mΩ)	I _D (A)
-30	20@ V _{GS} =-10V	-8
	30@ V _{GS} =-4.5V	


Electrical characteristics per line@25 °C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D = -250μA, V _{GS} = 0V	-30	-33	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -30V, V _{GS} = 0V	-	-	-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V	-	-	±100	nA
On CHARACTERISTICS(Note 1)						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1	-1.8	-3	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} = -10V, I _D = -8A	-	20	25	mΩ
		V _{GS} = -4.5V, I _D = -6A	-	30	40	mΩ
Forward Tran conductance	g _{FS}	V _{DS} = -15V, I _D = -9.1A	10	-	-	S
DYNAMIC PARAMETERS(Note 2)						
Input Capacitance	C _{ISS}	V _{GS} = 0V, V _{DS} = -15V, f = 1.0MHz	-	1600	-	pF
Output Capacitance	C _{DSS}		-	350	-	pF
Reverse Transfer Capacitance	C _{RSS}		-	300	-	pF
SWITCHING PARAMETERS(Note 2)						
Turn-On Delay Time	t _{d(on)}	V _{DD} = -15V, V _{GS} = -10V, I _D = -1A, R _{GEN} = 6Ω	-	10	-	ns
Turn-On Rise Time	t _r		-	15	-	ns
Turn-Off Delay Time	t _{d(off)}		-	110	-	ns
Turn-Off Fall Time	t _f		-	70	-	ns
Total Gate Charge	Q _g	V _{DS} = -15V, V _{GS} = -10V, I _D = -9.1A	-	30	-	nC
Gate-Source Charge	Q _{gs}		-	5.5	-	nC
Gate-Drain Charge	Q _{gd}		-	8	-	nC
Drain-Source Diode Characteristics						
Diode Forward Voltage (Note 1)	V _{SD}	V _{GS} = 0V, I _S = -2.1A	-	-	-1.2	V

Absolute maximum rating@25°C

Rating		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	$T_C = 25^\circ\text{C}$	I_D	-8	A
	$T_C = 70^\circ\text{C}$		-6.5	
	$T_A = 25^\circ\text{C}$		-7	
	$T_A = 70^\circ\text{C}$		-6	
Drain Current-Pulsed (Note 3)		I_{DM}	-40	A
Maximum Power Dissipation		P_D	3.1	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 To 150	$^\circ\text{C}$

Thermal Characteristic

Thermal Resistance, Junction-to-Ambient (Note 4)	$R_{\theta JA}$	40	$^\circ\text{C/W}$
--	-----------------	----	--------------------

Notes:

1. Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2\%$
2. Guaranteed by design, not subject to production
3. Repetitive Rating: Pulse width limited by maximum junction temperature.
4. Surface Mounted on FR4 Board, $t \leq 10 \text{ sec}$

Typical Characteristics

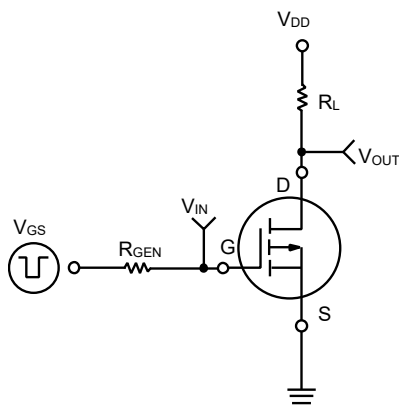


Figure 1. Switching Test Circuit

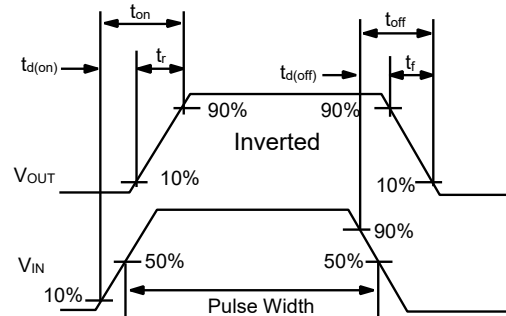


Figure 2. Switching Waveforms

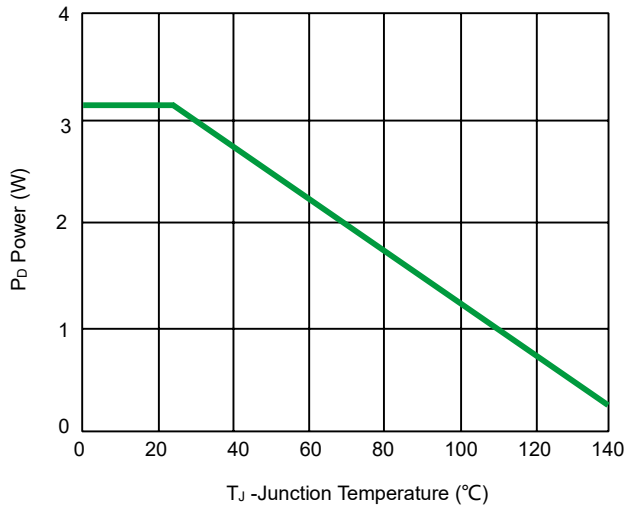


Fig 3. Power Dissipation

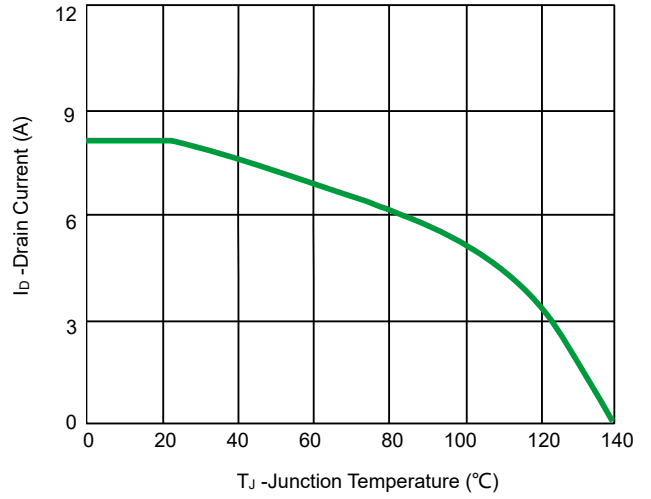


Fig 4. Drain Current

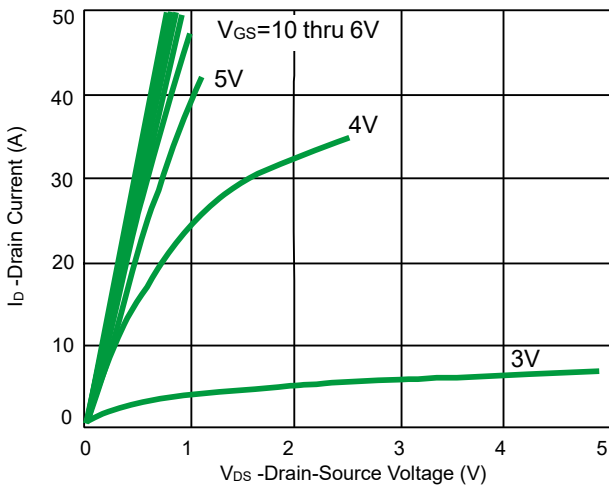


Fig 5. Output Characteristics

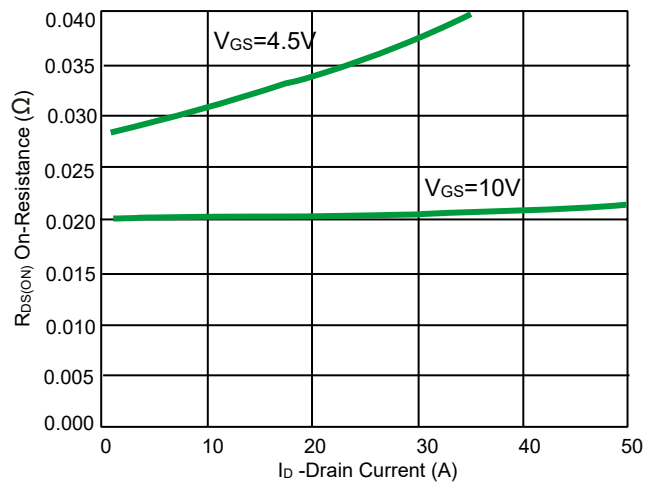


Fig 6. Drain-Source On-Resistance

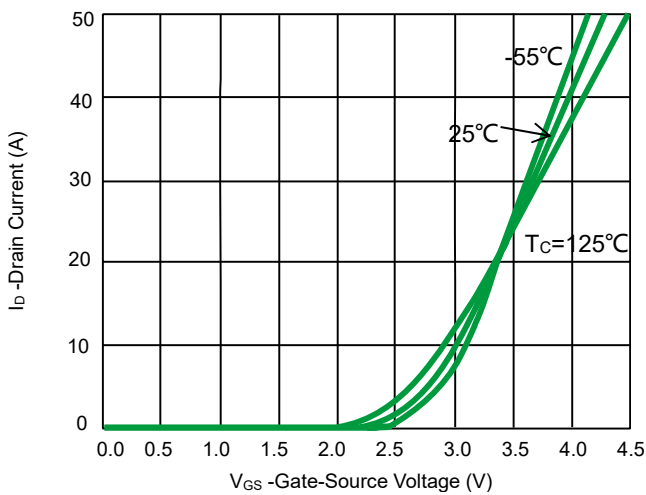


Fig 7. Transfer Characteristics

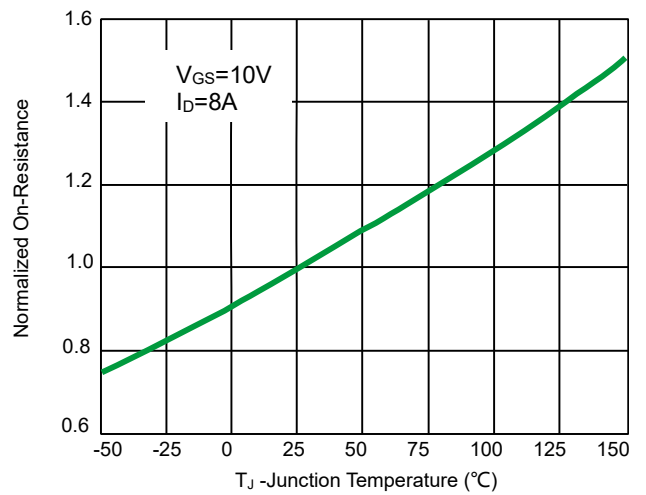


Fig 8. Drain-Source On-Resistance

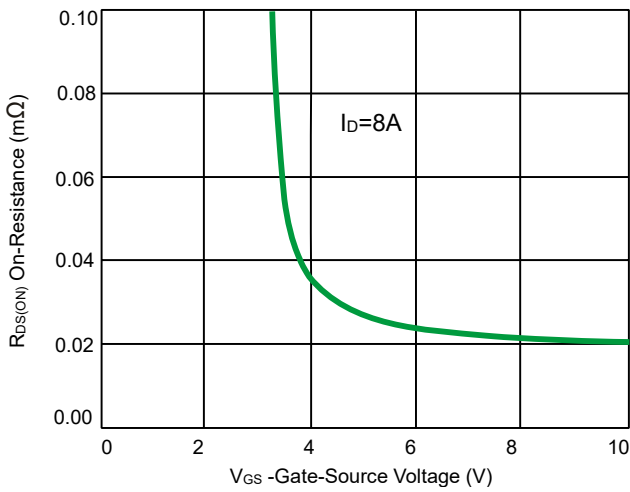


Fig 9. $R_{DS(ON)}$ vs. V_{GS}

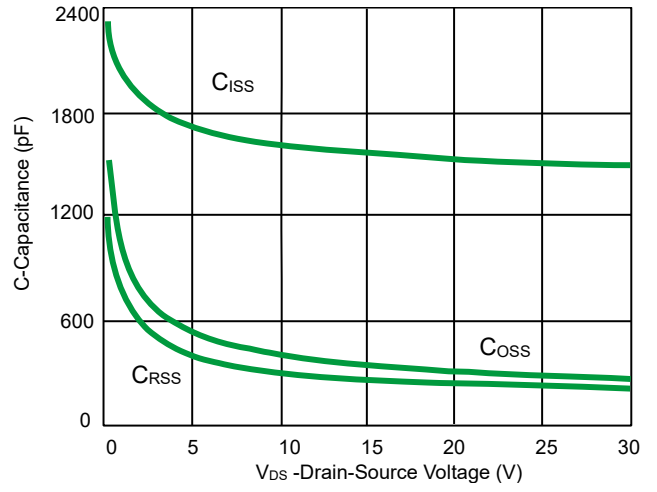


Fig 10. Capacitance vs. V_{DS}

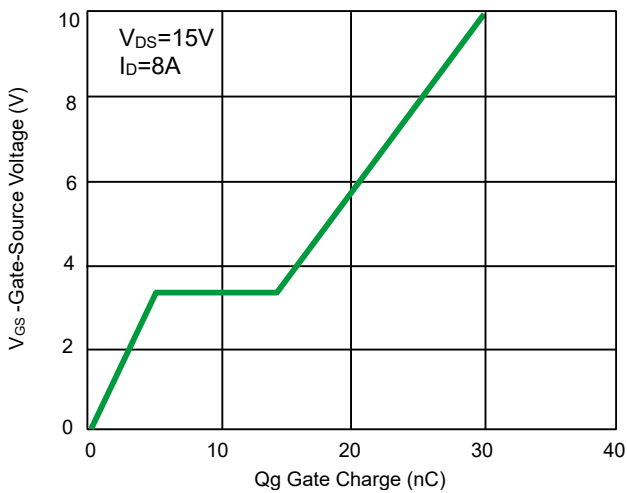


Fig 11. Gate Charge

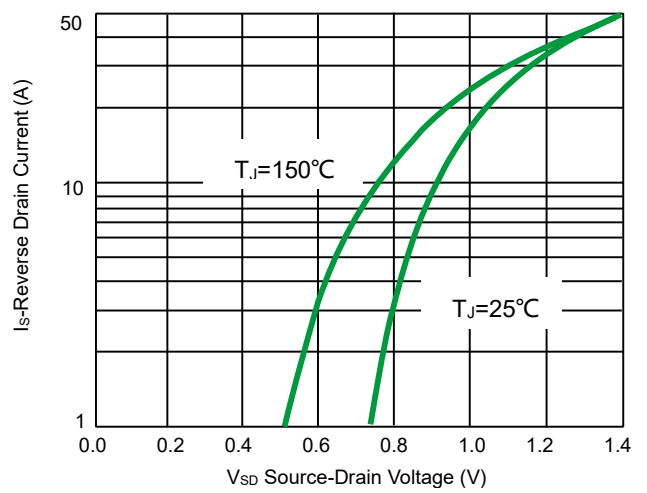


Fig 12. Source-Drain Diode Forward

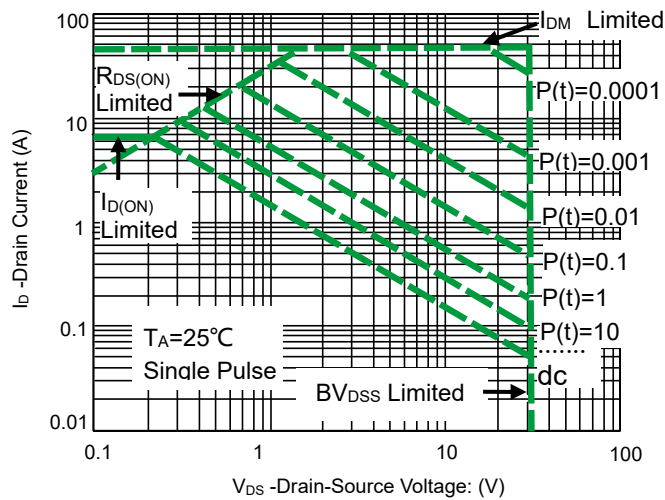


Figure 13. Safe Operation Area

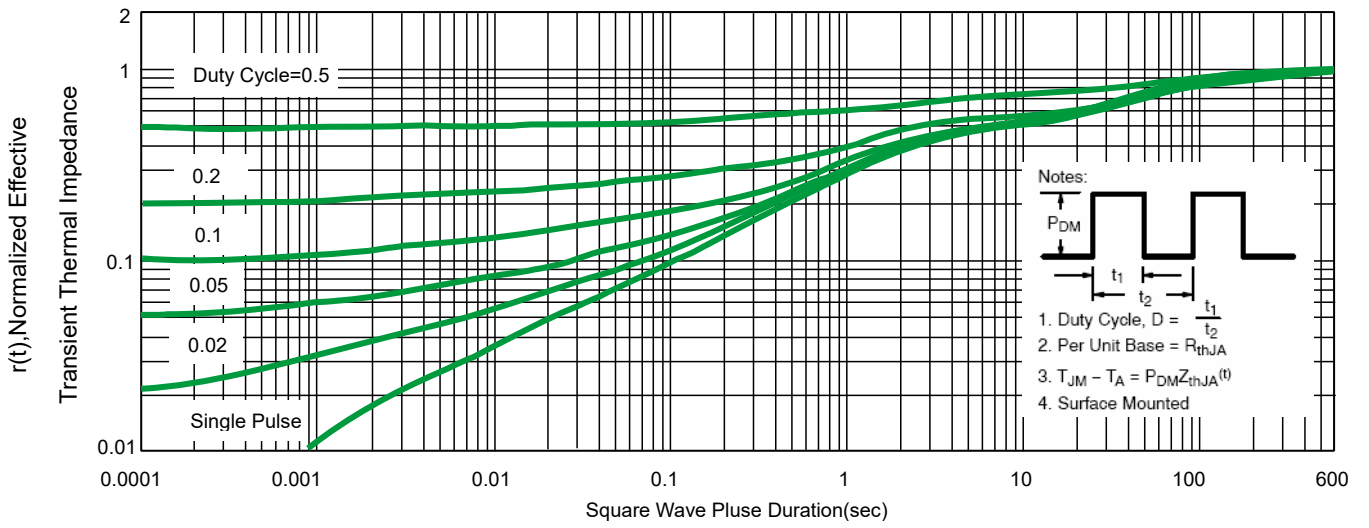
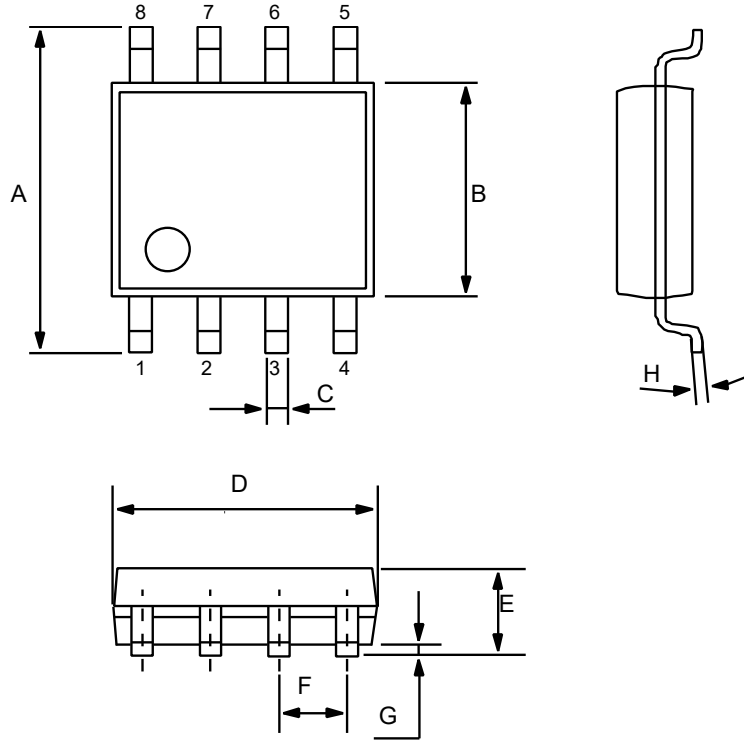


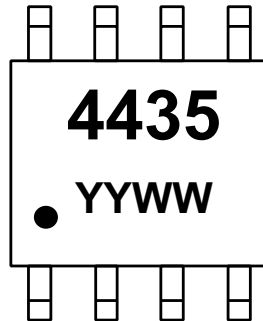
Figure 14. Normalized Maximum Transient Thermal Impedance

Product dimension (SOP-8)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	5.800	6.200	0.228	0.244
B	3.800	4.000	0.150	0.157
C	0.330	0.510	0.013	0.020
D	4.700	5.100	0.185	0.200
E	1.350	1.750	0.053	0.069
F	1.270 (BSC)		0.050 (BSC)	
G	0.100	0.250	0.004	0.010
H	0.170	0.250	0.006	0.010


Marking information



Ordering information

Device	Package	Reel	Shipping
PPM8P30V8	SOP-8	13"	3000 / Tape & Reel


IMPORTANT NOTICE

 and **Prisemi**[®] are registered trademarks of **Prisemi Electronics Co., Ltd (Prisemi)** ,Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: <http://www.prisemi.com>

For additional information, please contact your local Sales Representative.

©Copyright 2009, Prisemi Electronics

 **Prisemi**[®] is a registered trademark of Prisemi Electronics.

All rights are reserved.