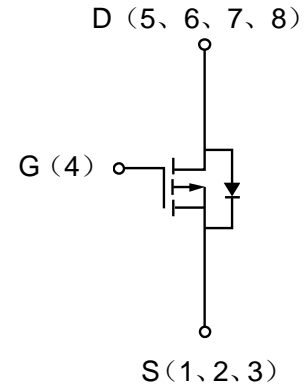


Description

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

MOSFET Product Summary		
$V_{DS}(V)$	$R_{DS(on)}(m\Omega)$	$I_D(A)$
-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}	$I_D=-250\mu A, V_{GS}=0V$	-30	-33	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$	-	-	-1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$	-	-	± 100	nA
On CHARACTERISTICS(Note 1)						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-1.8	-3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-10V, I_D=-8A$	16	20	25	$m\Omega$
		$V_{GS}=-4.5V, I_D=-6A$	25	30	40	$m\Omega$
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	$t_{d(on)}$	$V_{DD}=-15V, V_{GS}=-10V,$ $I_D=-1A, R_{GEN}=6\Omega$	-	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	$^\circ\text{C/W}$
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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

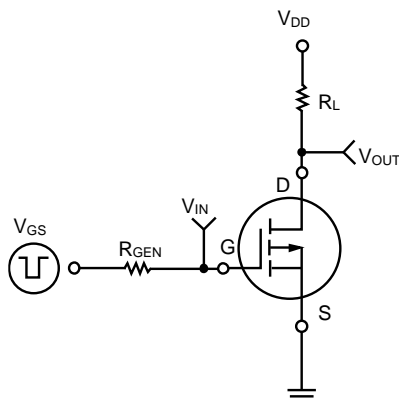


Figure 1. Switching Test Circuit

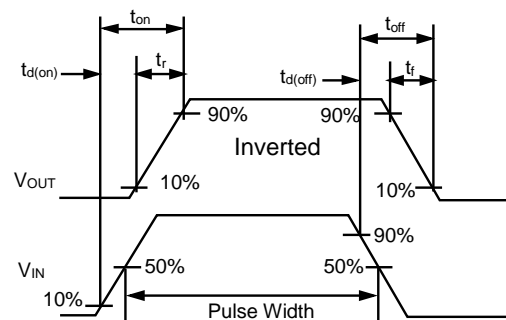


Figure 2. Switching Waveforms

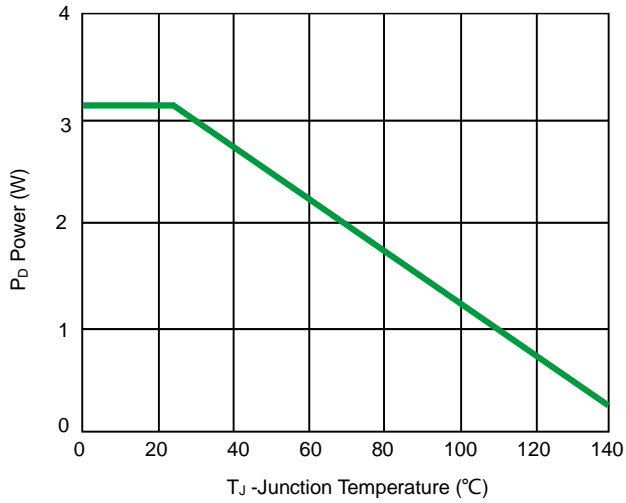


Fig 3. Power Dissipation

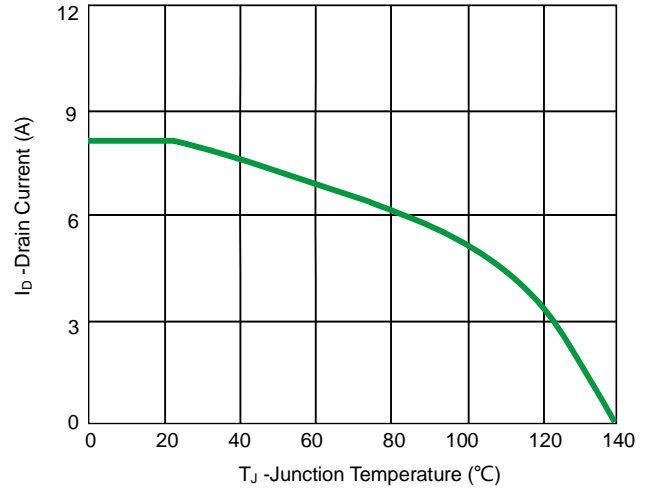


Fig 4. Drain Current

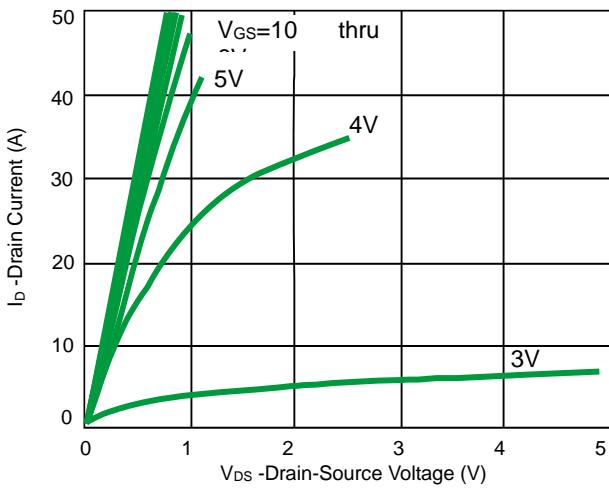


Fig 5. Output Characteristics

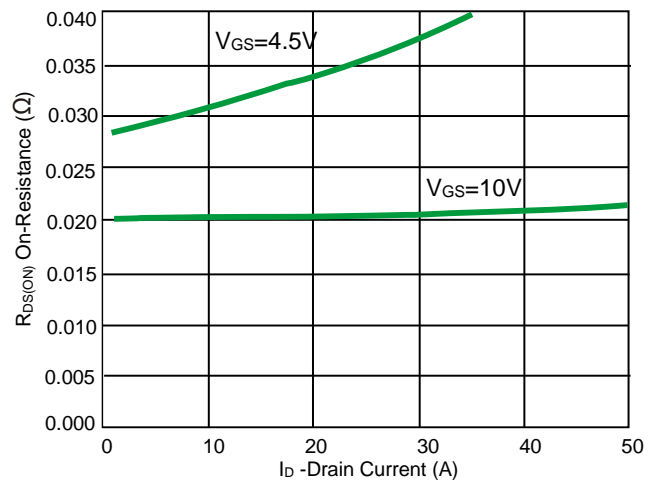


Fig 6. Drain-Source On-Resistance

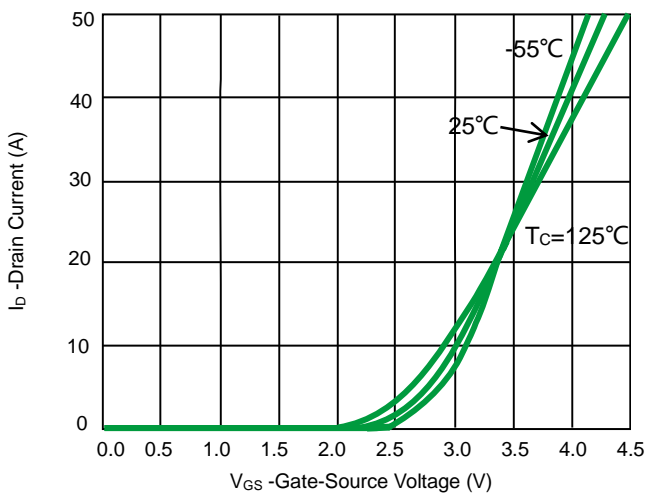


Fig 7. Transfer Characteristics

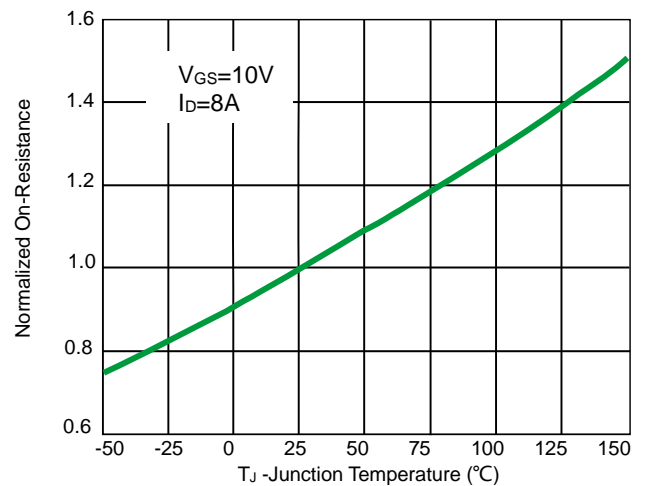


Fig 8. Drain-Source On-Resistance

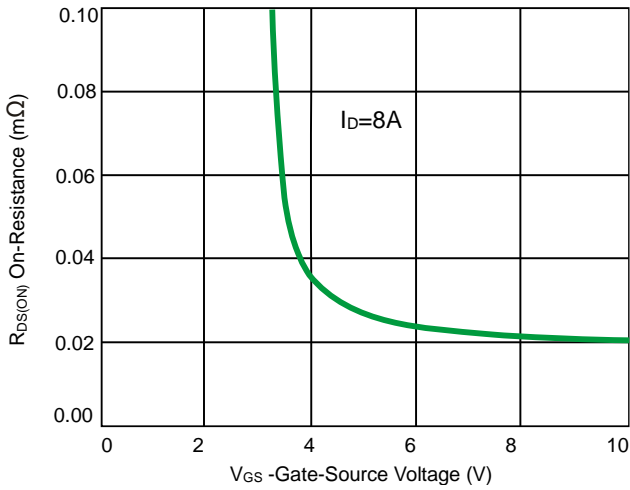


Fig 9. $R_{DS(ON)}$ vs. V_{GS}

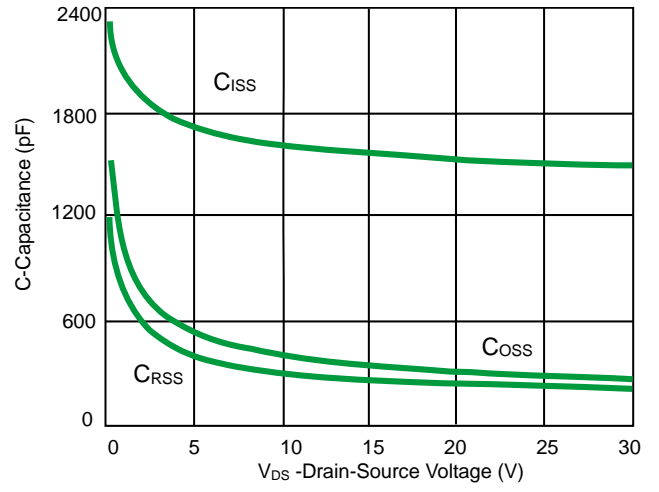


Fig 10. Capacitance vs. V_{DS}

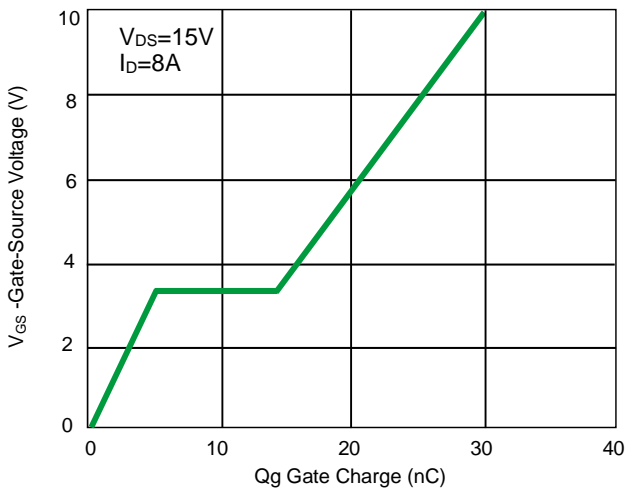


Fig 11. Gate Charge

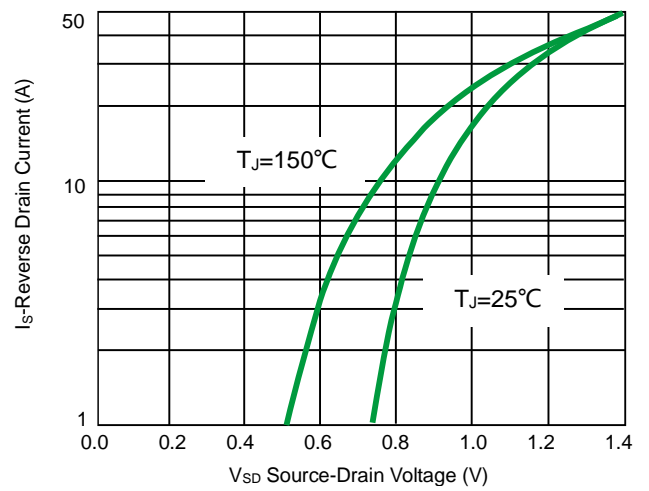


Fig 12. Source-Drain Diode Forward

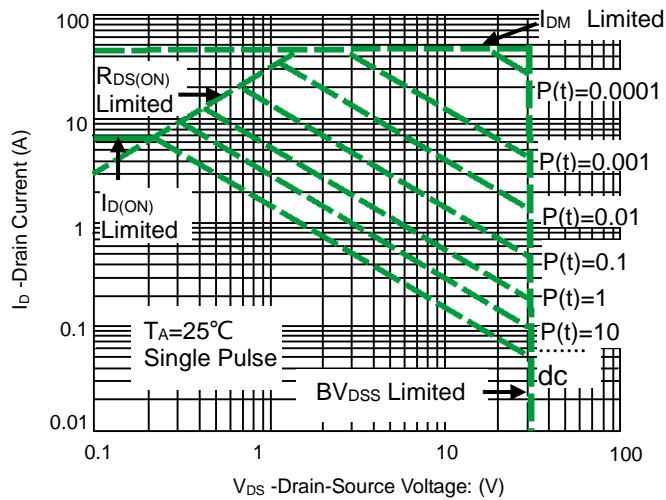


Figure 13. Safe Operation Area

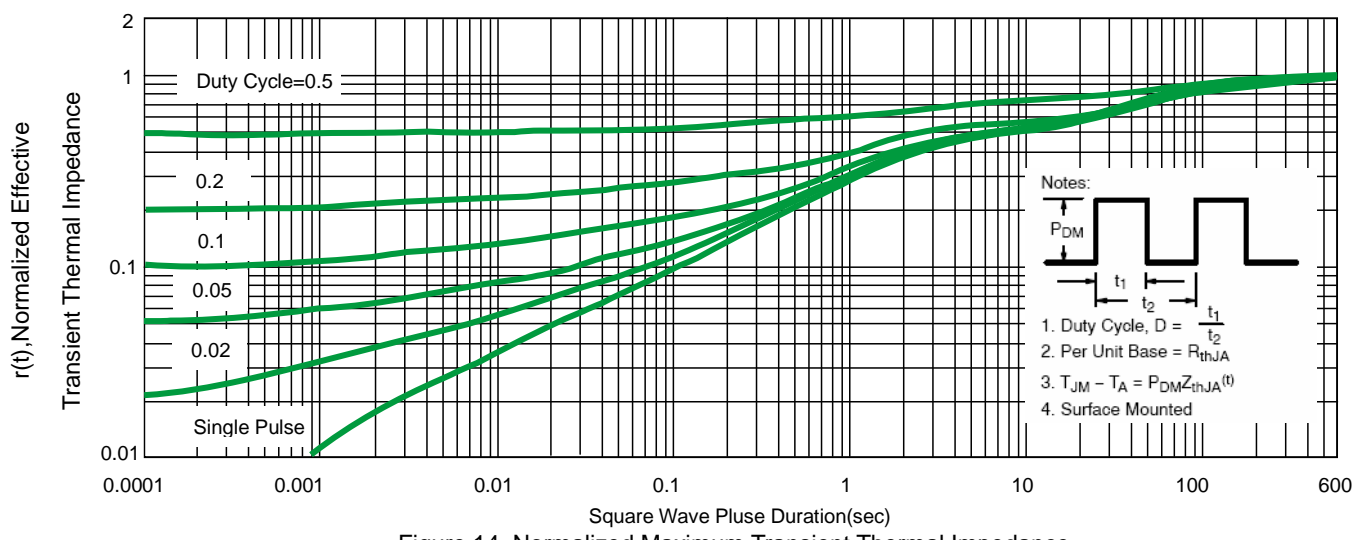
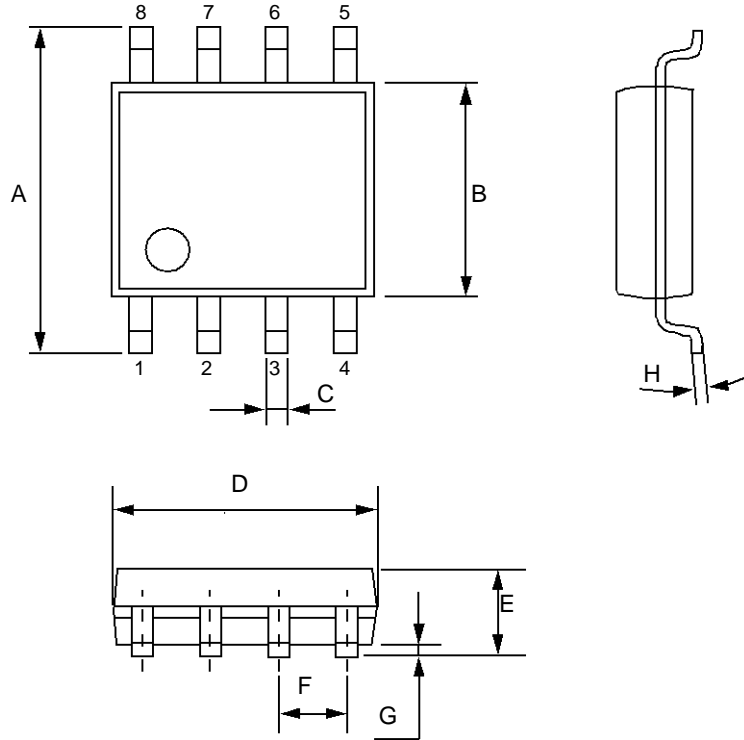


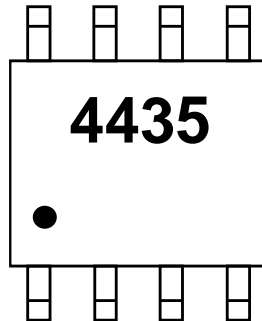
Figure 14. Normalized Maximum Transient Thermal Impedance

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"	2500 / Tape & Reel


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