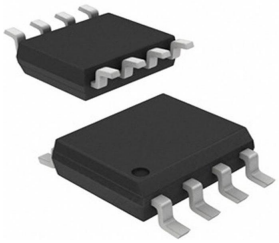
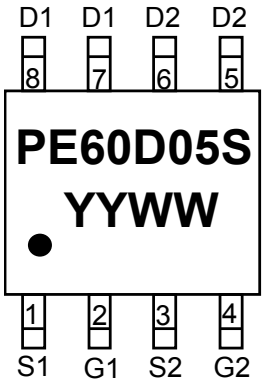
Description

The MOSFET provide the best combination of fast switching, low on-resistance and cost-effectiveness.

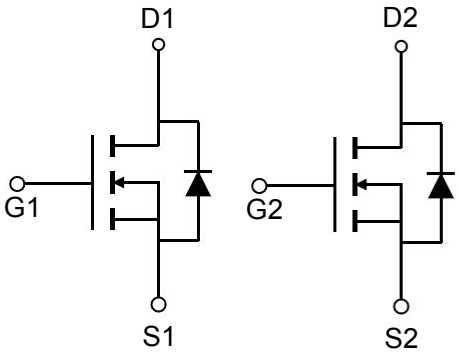
MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(mΩ)	I_D(A)
60	32@ VGS=4.5V	5



SOP-8L



Top View(SOP-8)



Internal Structure

Absolute maximum rating@25℃

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	5	A
Drain Current-Continuous（T_C=100℃）	I_D（100℃）	3.5	A
Pulsed Drain Current	I_{DM}	24	A
Maximum Power Dissipation	P_D	2	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	℃
Thermal Characteristics			
Parameter	**Symbol**	**Maximum**	**Units**
Thermal Resistance,Junction-to-Ambient(Note 1)	$R_{\theta JA}$	62.5	℃/W

Electrical characteristics per line@25℃(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D =250μA,V_{GS}=0V	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =60V,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=±20V	-	-	±100	μA
On Characteristics (Note 2)						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.2	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D =5A	-	26	35	mΩ
		V_{GS}=4.5V, I_D =5A	-	32	45	
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=5A	11	-	-	S
Dynamic Characteristics (Note 3)						
Input Capacitance	C_{ISS}	V_{GS}=0V, V_{DS} =30V, f=1MHz	-	979	-	pF
Output Capacitance	C_{OSS}		-	120	-	pF
Reverse Transfer Capacitance	C_{RSS}		-	100	-	pF
Switching Characteristics (Note 3)						
Total Gate Charge	Qg	V_{GS}=10V, V_{DS} =30V, I_D =5A	-	22		nC
Gate-Source Charge	Qgs		-	3.3	-	
Gate-Drain Charge	Qgd		-	5.2	-	
Turn-On Delay Time	$t_{d(on)}$	V_{DD} =30V, R_{GEN} =3Ω, V_{GS}=10V,R_L=6.7Ω	-	5.2	-	ns
Turn-Off Delay Time	$t_{d(off)}$		-	3	-	ns
Turn-On Rise Time	t_r		-	17	-	ns
Turn-On Fall Time	t_f		-	2.5	-	ns
Drain-Source Diode Characteristics						
Drain Forward Voltage(Note 2)	V_{SD}	V_{GS}=0V,I_S=5A	-	-	1.2	V
Drain Forward Current(Note 1)	I_S		-	-	5	A
Forward Turn-On Time	t_{on}	Intrinsic turn-on time is negligible(turn-on is dominated by LS+LD)				

Notes:

1.Surface Mounted on FR4 Board, t ≤ 10 sec.

2.Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

3.Guaranteed by design, not subject to production

Typical Characteristics

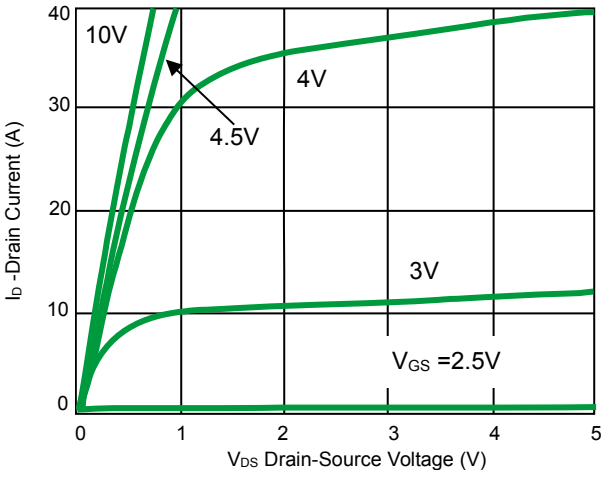


Fig 1. Output Characteristics

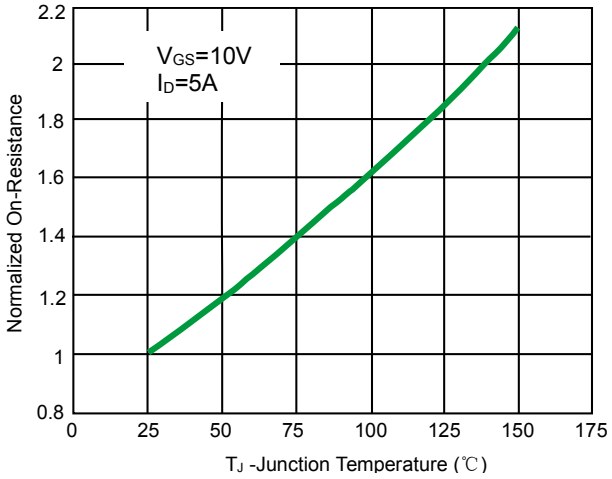


Fig 2. Rdson-Junction Temperature(℃)

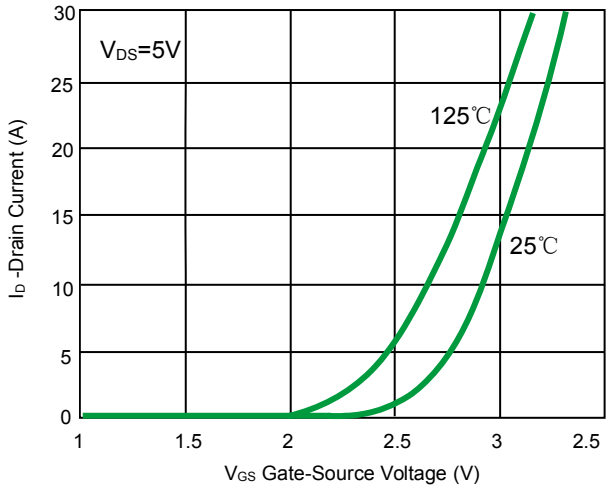


Fig 3. Transfer Characteristics

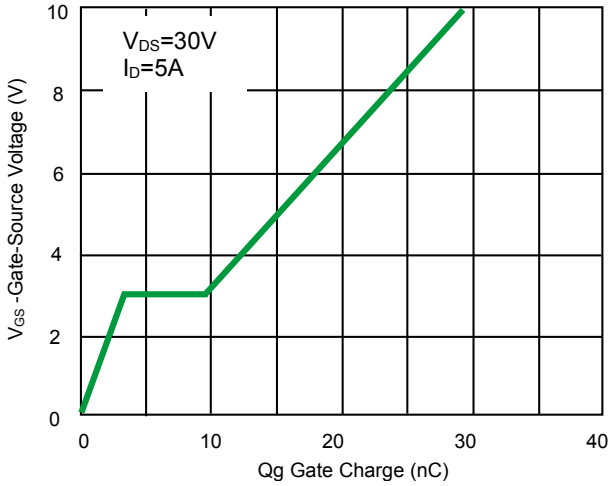


Fig 4. Gate Charge

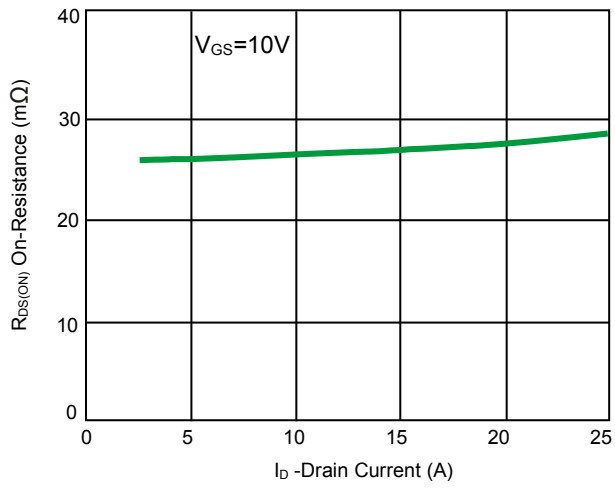


Fig 5. Rdson-Drain Current

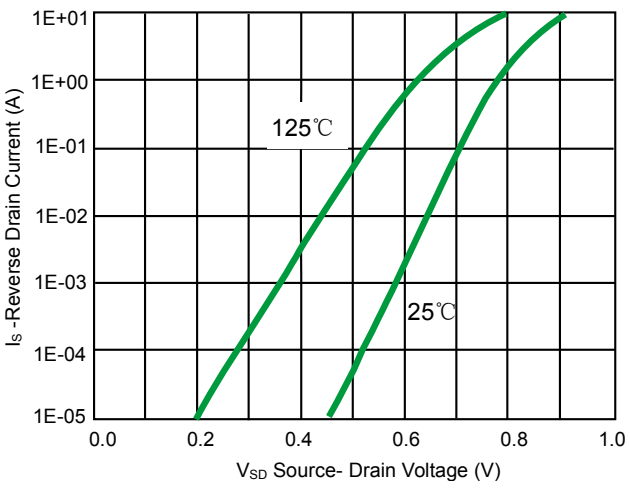


Fig 6. Source-Drain Diode Forward

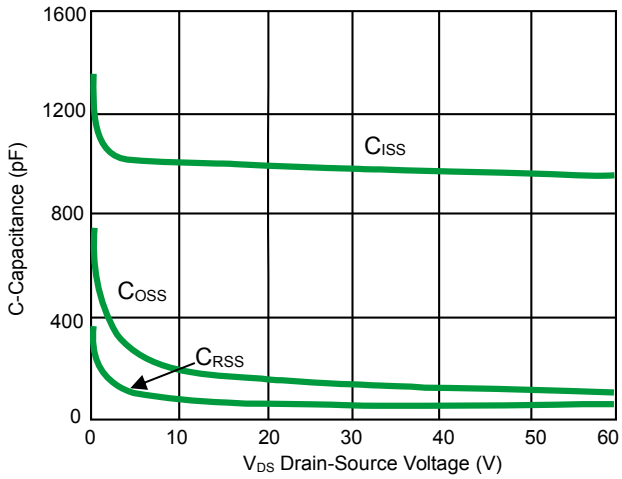


Fig 7. Capacitance vs. V_{DS}

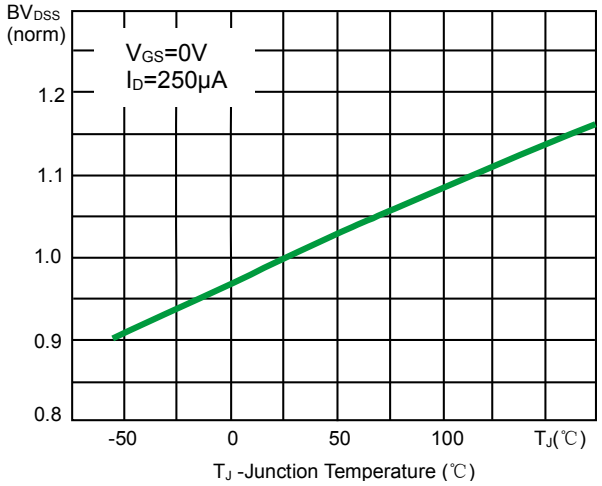


Fig 8. BVDSS vs.Junction Temperature

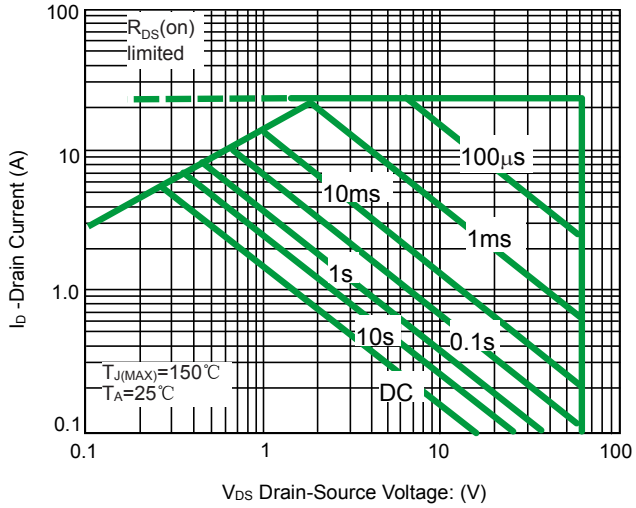


Figure 9. Safe Operation Area

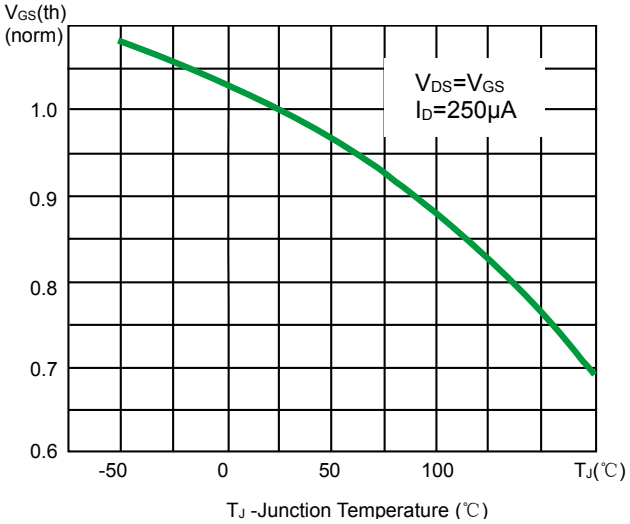


Figure 10.$V_{GS(th)}$ VS Junction Temperature

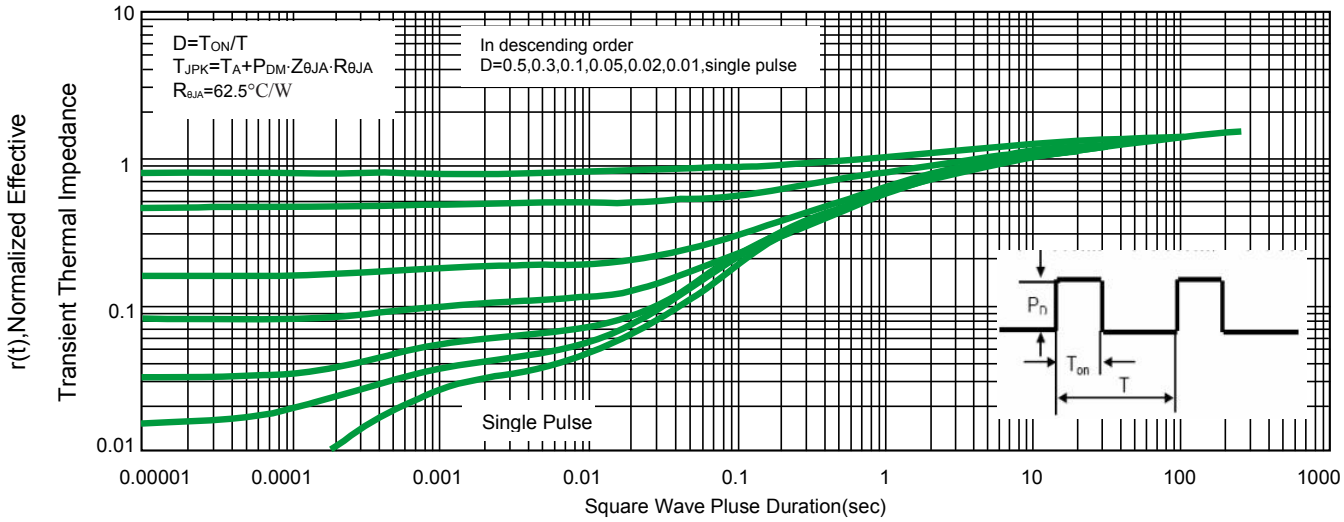
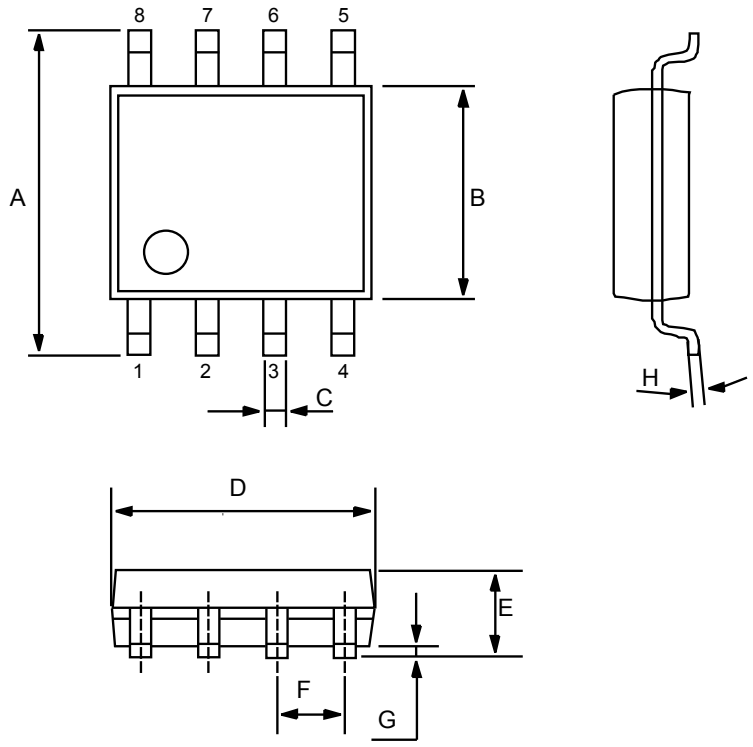


Figure 11. Normalized Maximum Transient Thermal Impedance

Product dimension(SOP-8)

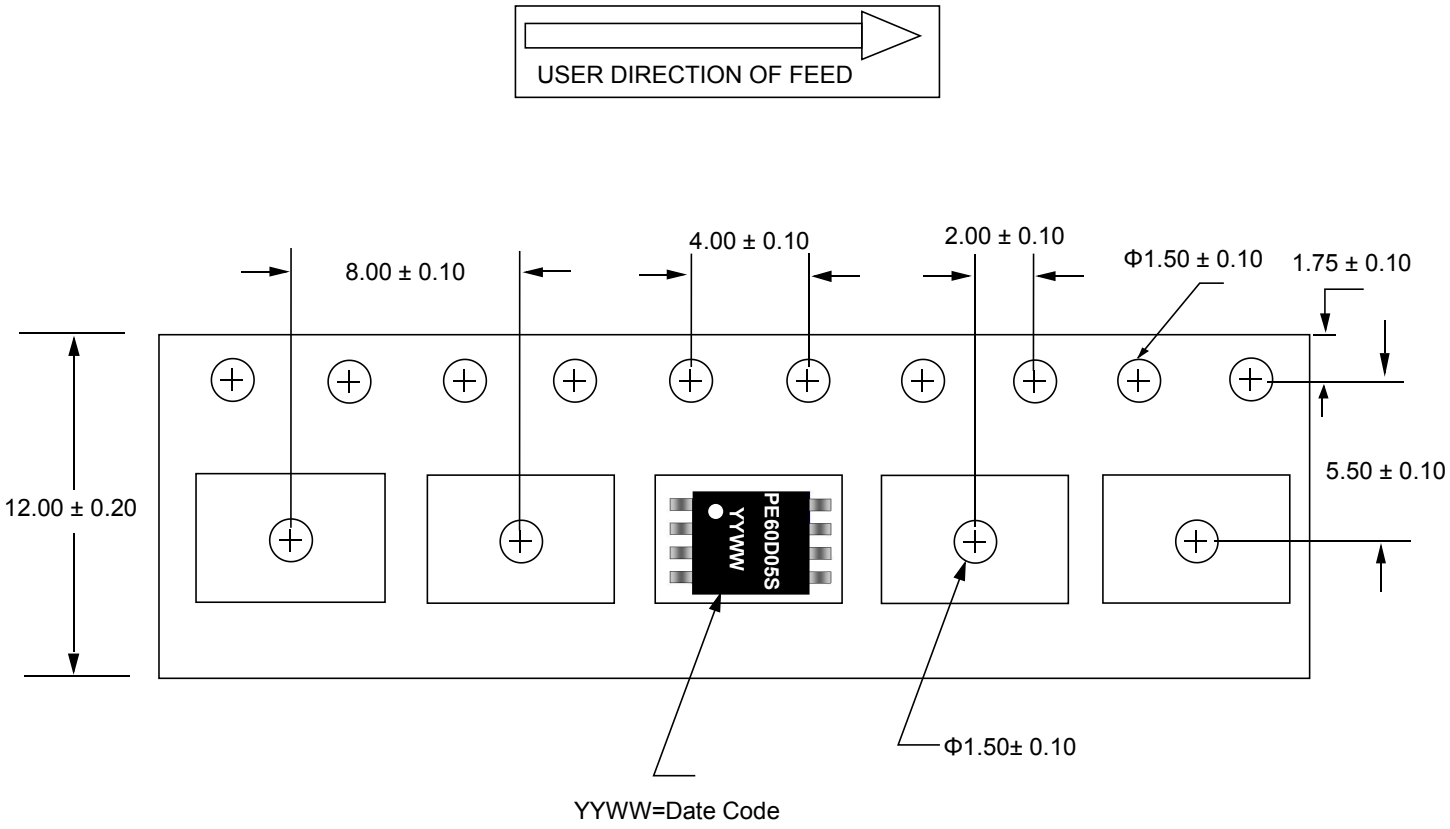


Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	5.800	6.200	0.228	0.244
B	3.800	4.000	0.150	0.157
C	0.330	0.510	0.013	0.020
D	4.700	5.100	0.185	0.200
E	1.350	1.750	0.053	0.069
F	1.270（BSC）		0.050（BSC）	
G	0.100	0.250	0.004	0.010
H	0.170	0.250	0.006	0.010

Ordering information

Device	Package	Reel	Shipping
PDNM8P60V5	SOP-8 (Pb-Free)	13"	2500 / Tape & Reel

Load with information



Unit：mm

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