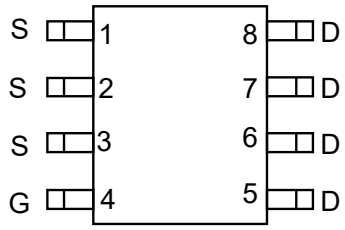
Description

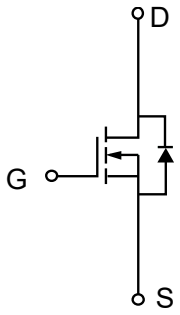
This MOSFET uses Super Trench technology that is uniquely optimized to provide the most efficient high frequency switching performance. This device provide best combination of fast switching ,low on-resistance and cost-effectiveness.

MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(mΩ)(Typ)	I_D(A)
60	5.7@ VGS=10V	20

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
Continuous Drain Curren(T_J=150℃)	T_A=25℃	I_D	20	A
	T_A=70℃		15	
Pulsed Drain Current		I_{DM}	80	A
Maximum Power Dissipation	T_A=25℃	P_D	2.72	W
	T_A=70℃		1.74	
Operating Junction and Storage Temperature Range		T_J	-55 to 150	℃

Thermal Characteristics

Parameter	Symbol	Typical	Maximum	Units
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	46	62.5	℃/W

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
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	-	-	1.0	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=±20V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.0	-	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D =20A	-	5.7	8.0	mΩ
		V_{GS}=4.5V, I_D =18A	-	8.0	10.5	
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=15A	-	0.8	1.2	V
Total Gate Charge	Qg	V_{GS}=10V, V_{DS} =30V, I_D =20A	-	67	-	nC
Gate-Source Charge	Qgs		-	12	-	
Gate-Drain Charge	Qgd		-	8.5	-	
Input Capacitance	C_{ISS}	V_{GS}=0V, V_{DS} =30V, f=1MHz	-	4000	-	pF
Output Capacitance	C_{OSS}		-	680	-	pF
Reverse Transfer Capacitance	C_{RSS}		-	23	-	pF
Turn-On Delay Time	$t_{d(on)}$	V_{DD} =30V, V_{GEN} =10V, R_G=3Ω,R_L=1.7Ω I_D =1A	-	11	-	ns
Turn-Off Delay Time	$t_{d(off)}$		-	56	-	ns
Turn-On Rise Time	t_r		-	5.0	-	ns
Turn-On Fall Time	t_f		-	12	-	ns
Diode Forward Current	I_s	-	-	-	20	A

Typical Characteristics

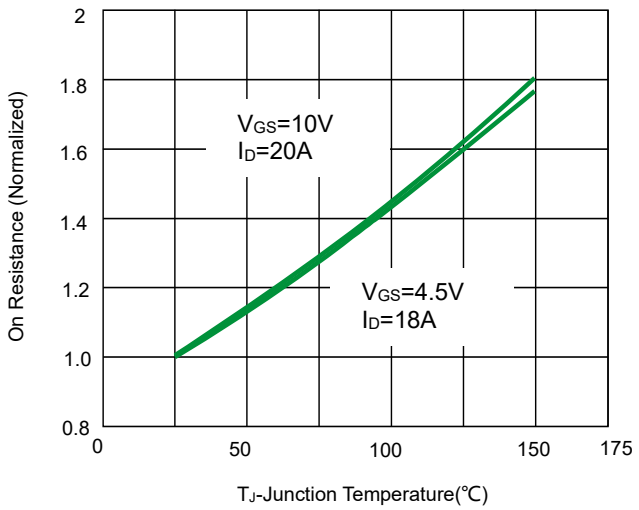


Fig 1. On Resistance vs. Junction Temperature

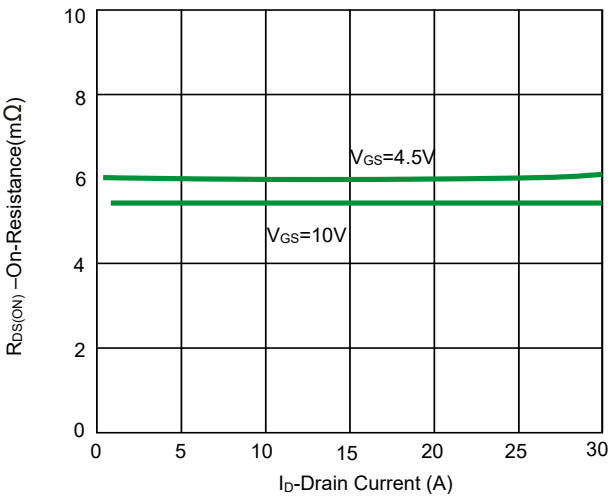


Fig 2. On-Resistance vs. Drain Current

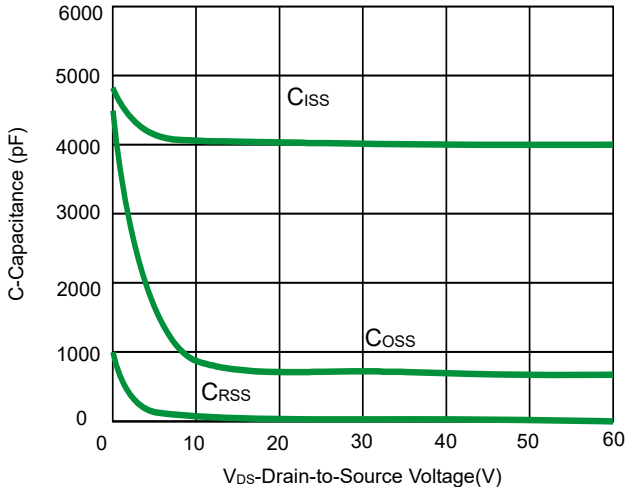


Fig 3. Capacitance vs Vds

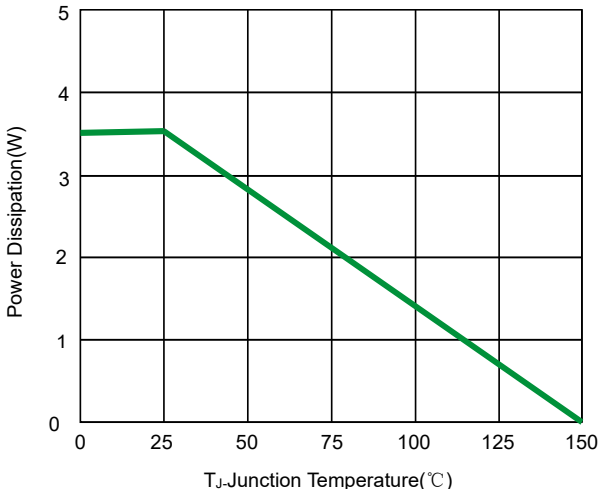


Fig 4. Power De-rating

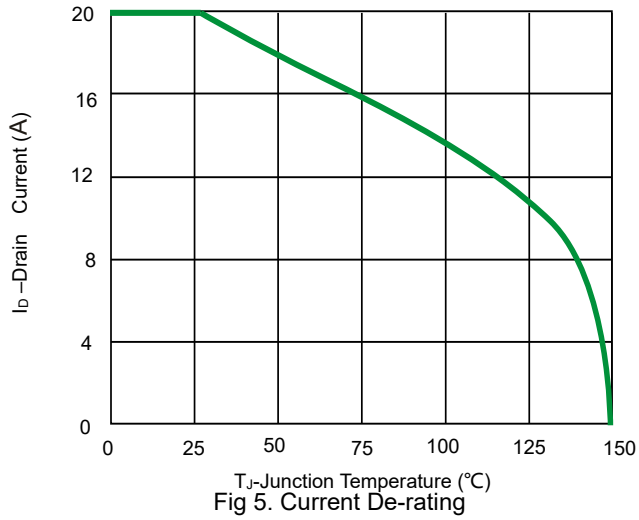


Fig 5. Current De-rating

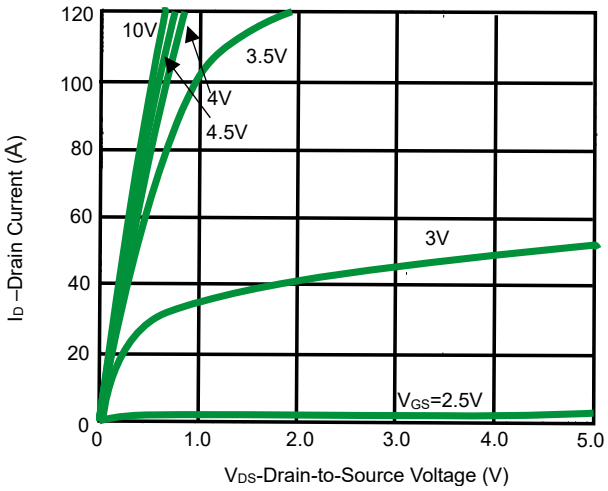


Fig 6. Output Characteristics

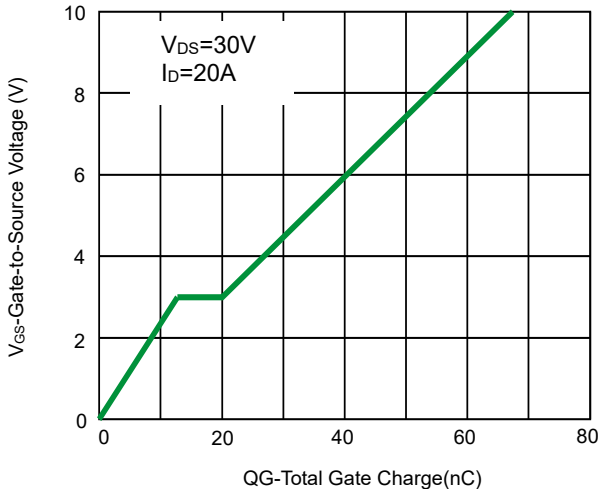


Fig 7. Gate Charge

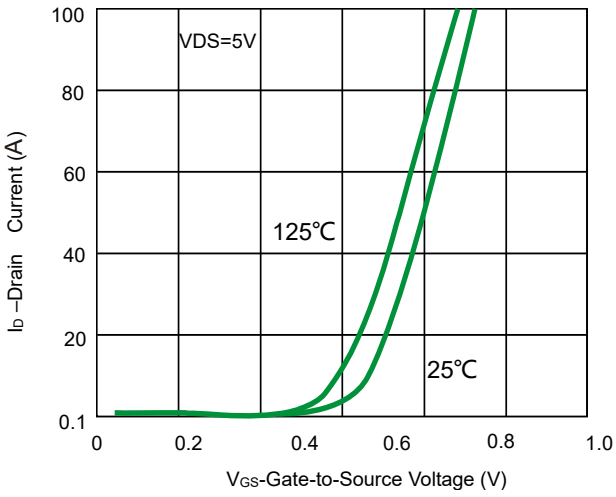


Fig 8. Transfer Characteristics

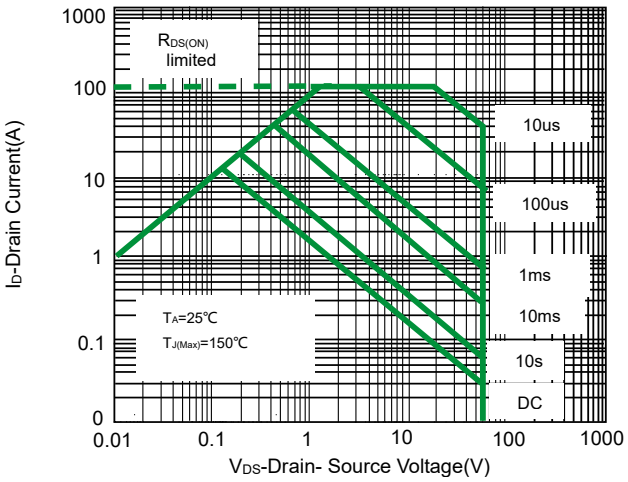


Fig 9. Safe Operating Area

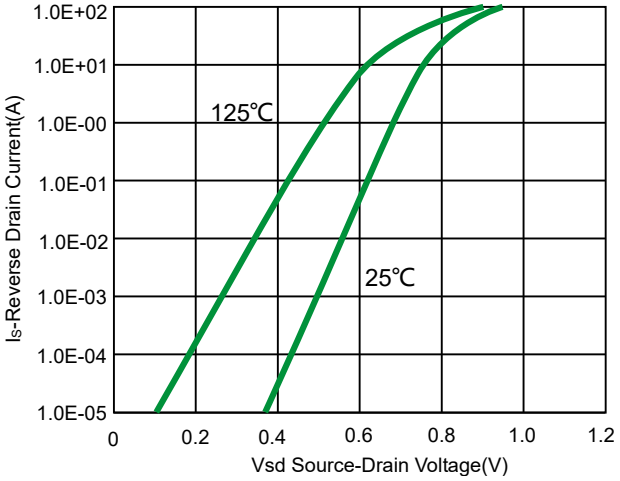


Fig 10. Source-Drain Diode Forward

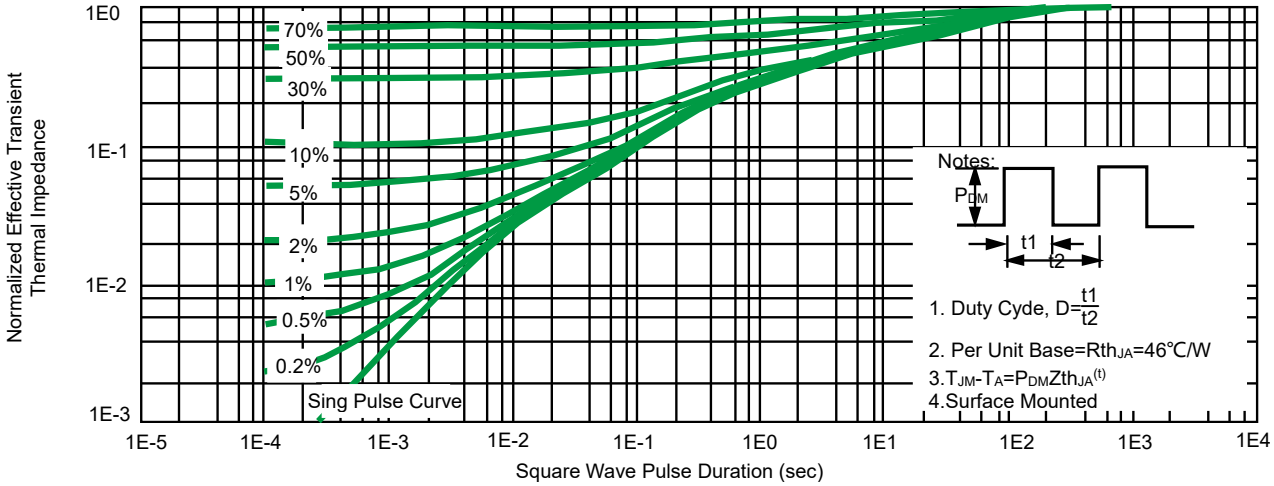
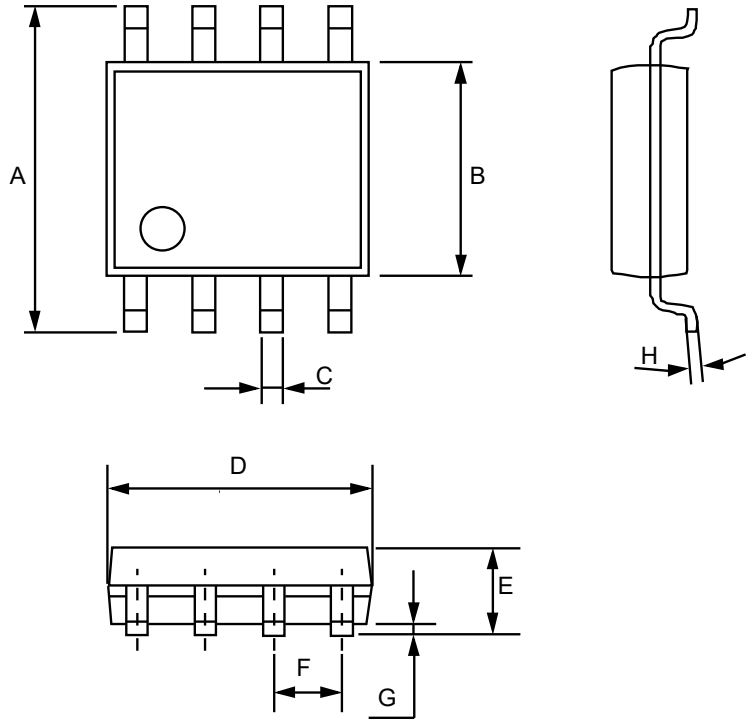


Fig 11.Normalized Thermal Transient Impedance, Junction-to-Ambient

Product dimension （SOP-8）

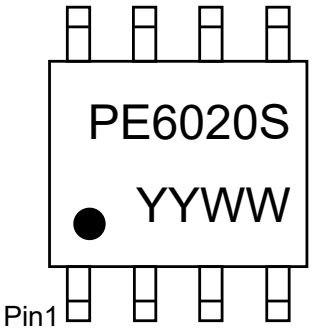


Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	5.800	6.200	0.228	0.244
B	3.800	4.000	0.150	0.157
C	0.330	0.510	0.013	0.020
D	4.700	5.100	0.185	0.200
E	1.350	1.750	0.053	0.069
F	1.270（BSC）		0.050（BSC）	
G	0.100	0.250	0.004	0.010
H	0.170	0.250	0.006	0.010

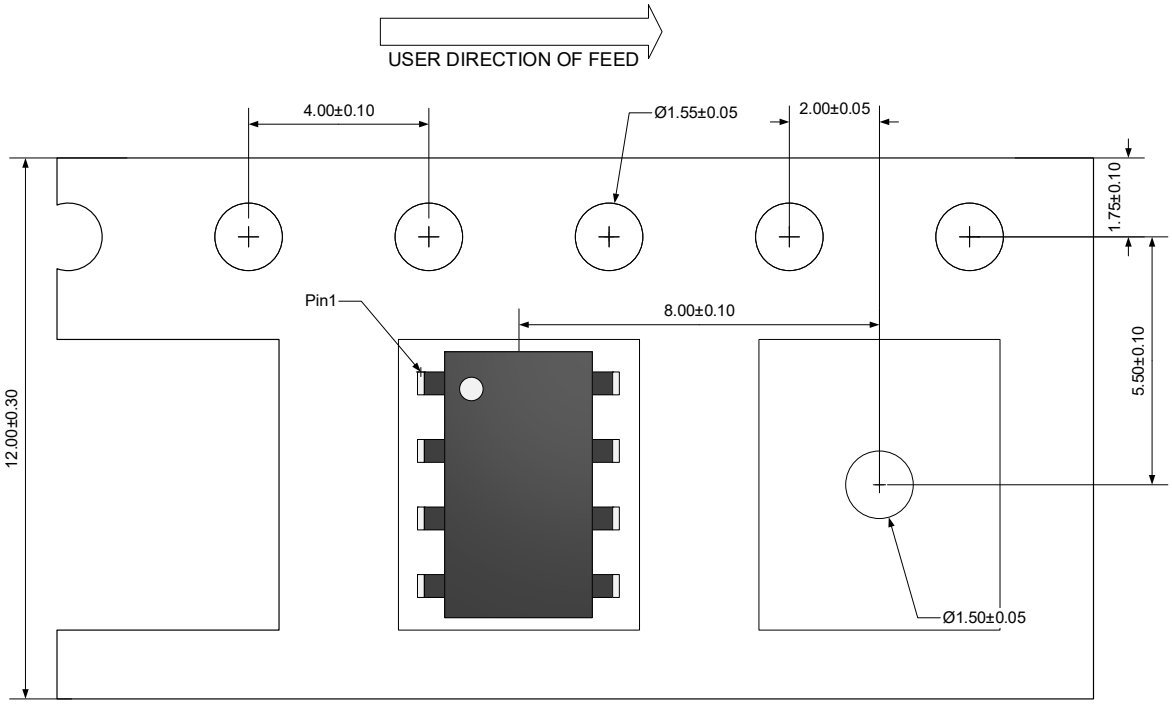
Ordering information

Device	Package	Shipping
PNM8P60V20	SOP-8	4000 / Tape & Reel

Marking information



Load with information



Unit:mm

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