

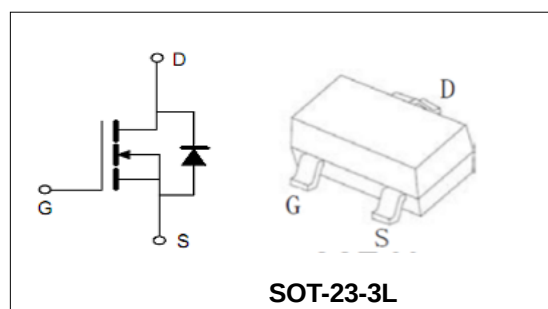
**30V/8A N-Channel Advanced Power MOSFET****Features**

- Advanced Trench Technology.
- Excellent RDS(ON) and Low Gate Charge
- Lead free product is acquired

BVDSS	30	V
ID	8	A
RDSON@VGS=10V	10	mΩ
RDSON@VGS=4.5V	14.5	mΩ

Applications

- Load Switch
- PWM Application
- Power management

**Order Information**

Product	Package	Marking	Reel Size	Reel	Carton
PTL3008	SOT-23-3L	3008	13inch	3000PCS	180000PCS

Absolute Maximum Ratings

Symbol	Parameter		Rating	Unit	
Common Ratings (TC=25°C Unless Otherwise Noted)					
V _{(BR)DSS}	Drain-Source Breakdown Voltage		30	V	
V _{GS}	Gate-Source Voltage		±20	V	
T _J	Maximum Junction Temperature		150	°C	
T _{STG}	Storage Temperature Range		-55 to 150	°C	
I _S	Diode Continuous Forward Current	TA =25°C	8	A	
Mounted on Large Heat Sink					
I _{DM}	Pulse Drain Current Tested (Sillicon Limit)	(Note1)	TA =25°C	32	A
I _D	Continuous Drain current		TA =25°C	8	A
P _D	Maximum Power Dissipation		TA =25°C	1.5	W
R _{θJA}	Thermal Resistance Junction-to-Ambient		(Note2)	83.3	°C/W



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Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
Static Electrical Characteristics @ T _J = 25°C (unless otherwise stated)						
V _{(BR)DSS}	Drain- Source Breakdown Voltage	VGS=0V ID=250μA	30	--	--	V
I _{DSS}	Zero Gate Voltage Drain current	VDS=30V,VGS=0V	--	--	1	μA
I _{GSS}	Gate-Body Leakage Current	VGS=±20V,VDS=0V	--	--	±100	nA
V _{GS(TH)}	Gate Threshold Voltage	VDS=VGS,ID=250μA	1.1	--	2.2	V
R _{DS(ON)}	Drain-Source On-State Resistance (Note3)	VGS=10V, ID=8A	--	10	13	mΩ
		VGS=4.5V, ID=6A	--	14.5	18	mΩ
Dynamic Electrical Characteristics @ T _J = 25°C (unless otherwise stated) (Note4)						
C _{iss}	Input Capacitance	VDS=15V, VGS=0V, F=1MHz	--	1120	--	pF
C _{oss}	Output Capacitance		--	162	--	pF
C _{rss}	Reverse Transfer Capacitance		--	141	--	pF
Q _g	Total Gate Charge	VDS=15V, ID=4A, VGS=10V	--	13	--	nC
Q _{gs}	Gate-Source Charge		--	1.7	--	nC
Q _{gd}	Gate-Drain Charge		--	4.5	--	nC
Switching Characteristics (Note4)						
t _{d(on)}	Turn-on Delay Time	VDS=15V, ID=4A, RG=3Ω, VGS=4.5V	--	7.8	--	nS
t _r	Turn-on Rise Time		--	22	--	nS
t _{d(off)}	Turn-off Delay Time		--	32	--	nS
t _f	Turn-off Fall Time		--	12	--	nS
Source- Drain Diode Characteristics@ T _J = 25°C (unless otherwise stated)						
V _{SD}	Forward on voltage	IS=6A,VGS=0V	--	--	1.2	V

Note:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
3. Pulse Test: pulse width ≤ 300 us, duty cycle $\leq 2\%$.
4. Guranteed by design, not subject to production testing.



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Typical Characteristics

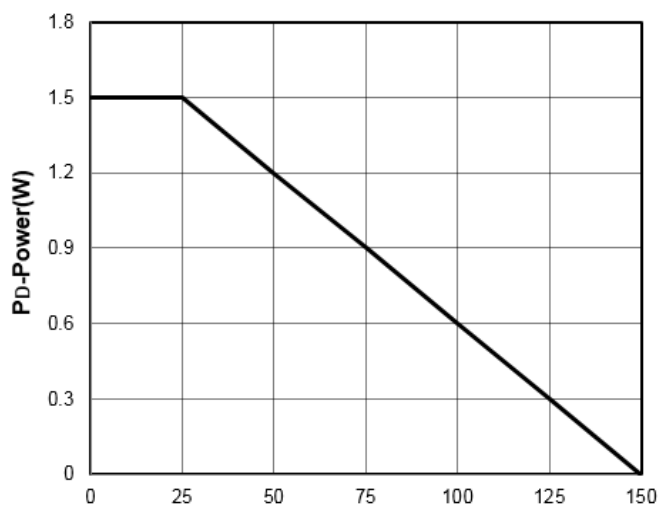
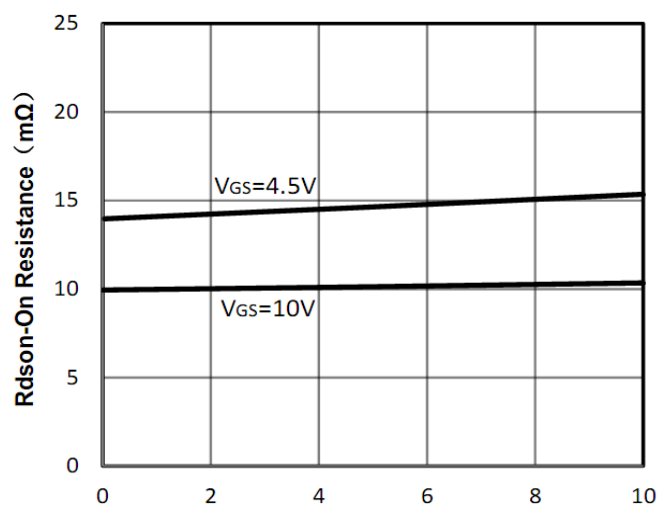
Figure1: T_j Junction Temperature (°C)

Figure2: Id Drain Current (A)

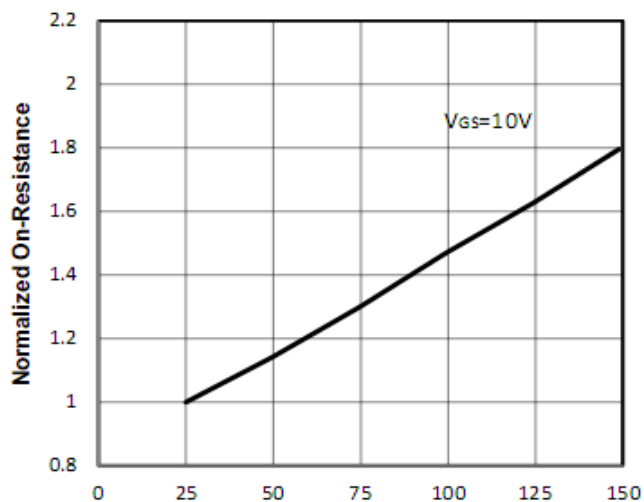
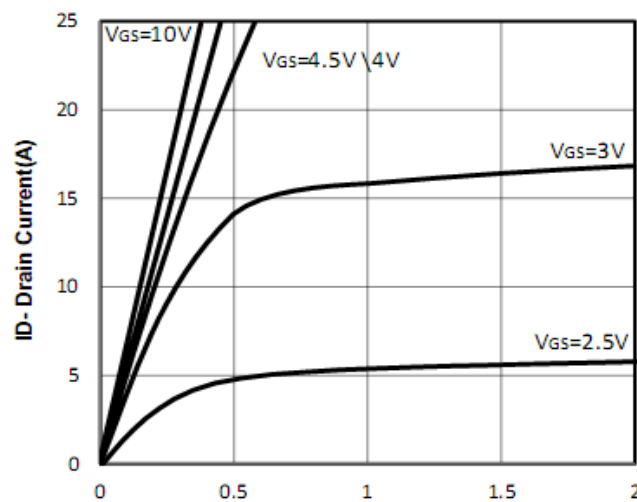
Figure3: T_j Junction Temperature (°C)

Figure4: Vds Drain-Source Voltage (V)

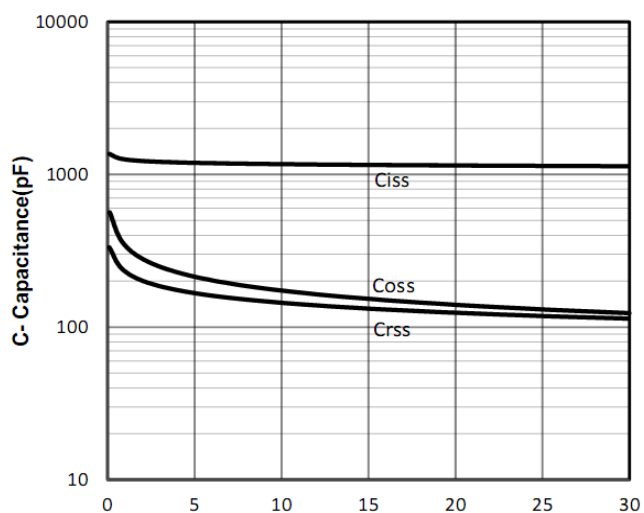


Figure5: Vds Drain-Source Voltage (V)

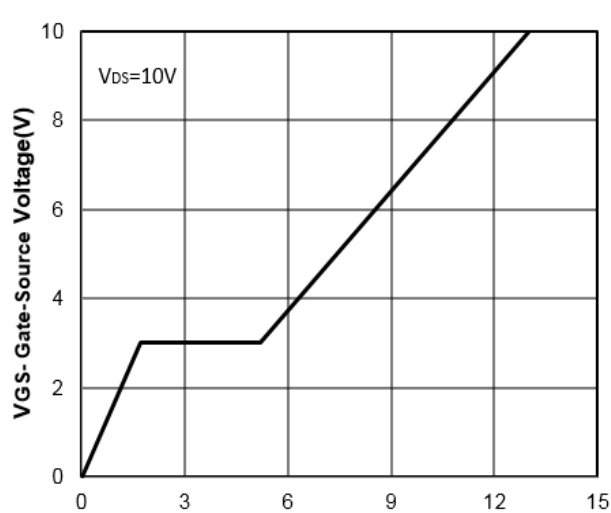


Figure6: Qg Gate Charge (nC)



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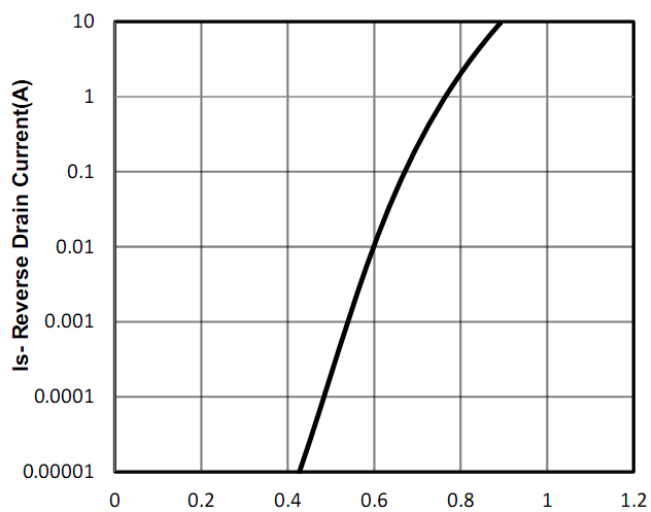


Figure7: Vsd Source-Drain Voltage (V)

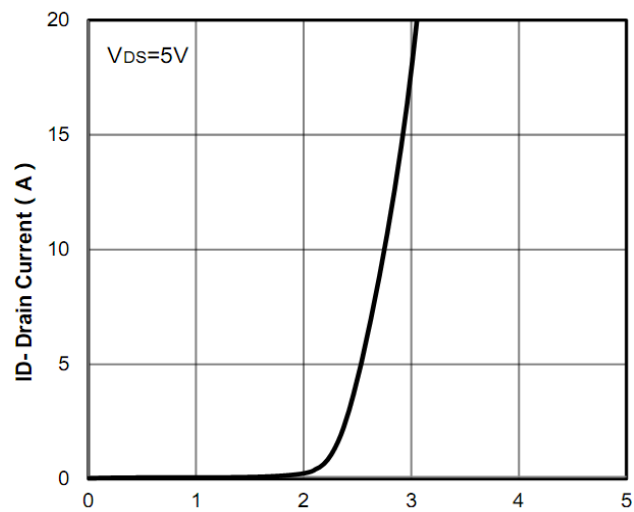


Figure8: Vgs Gate-Source Voltage (V)

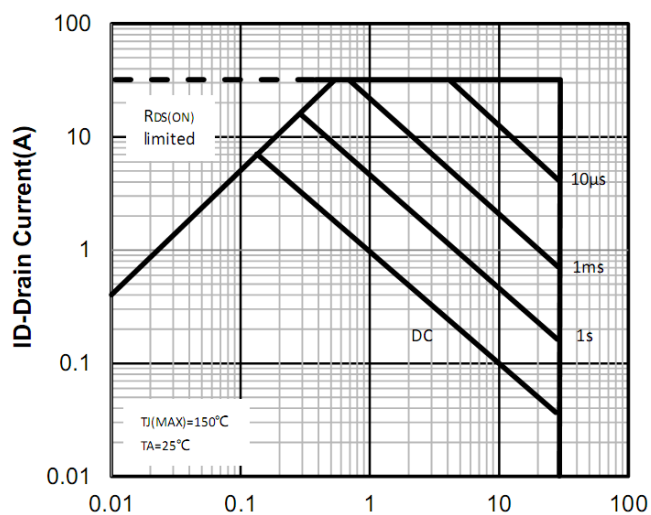


Figure9: Vds Drain-Source Voltage (V)

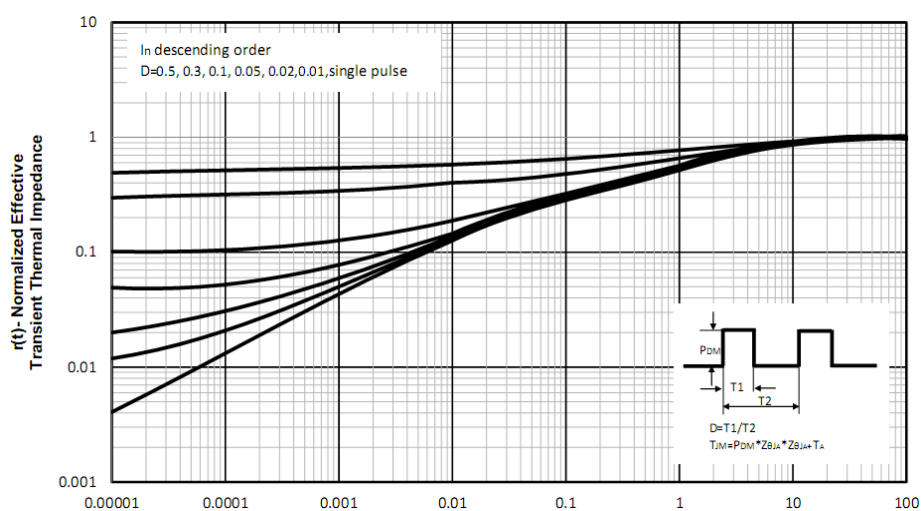


Figure10: Square Wave Pulse Duration (sec)



Test Circuit and Waveform:

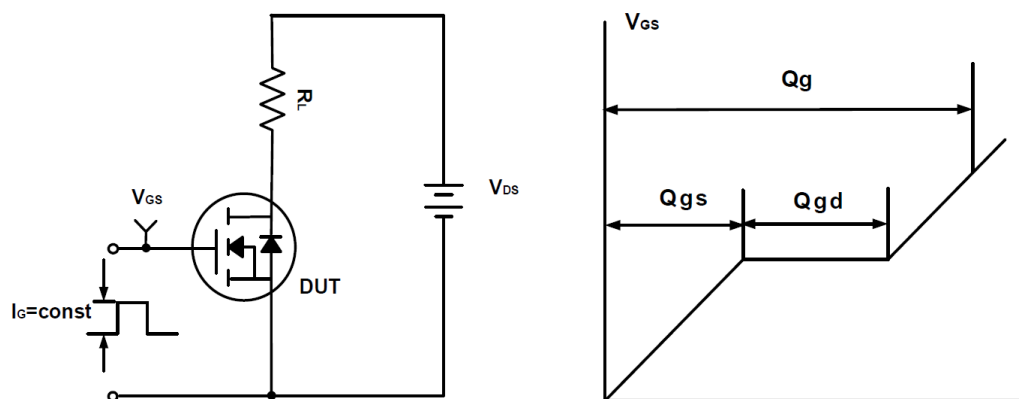


Figure A Gate Charge Test Circuit & Waveforms

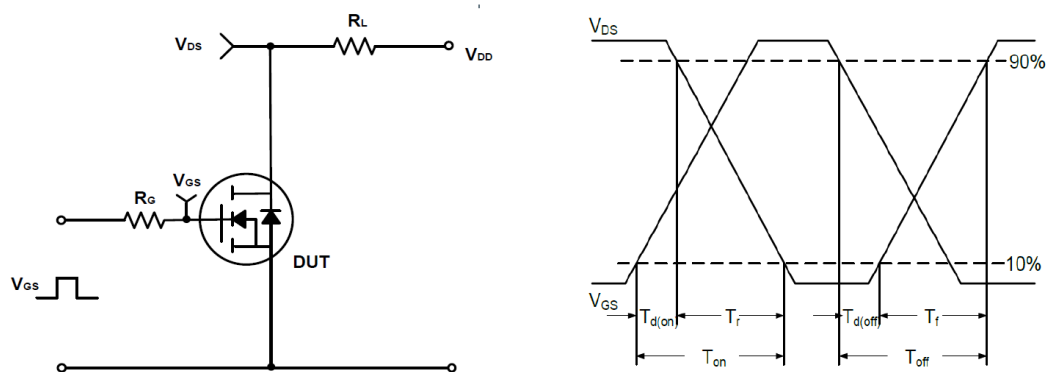
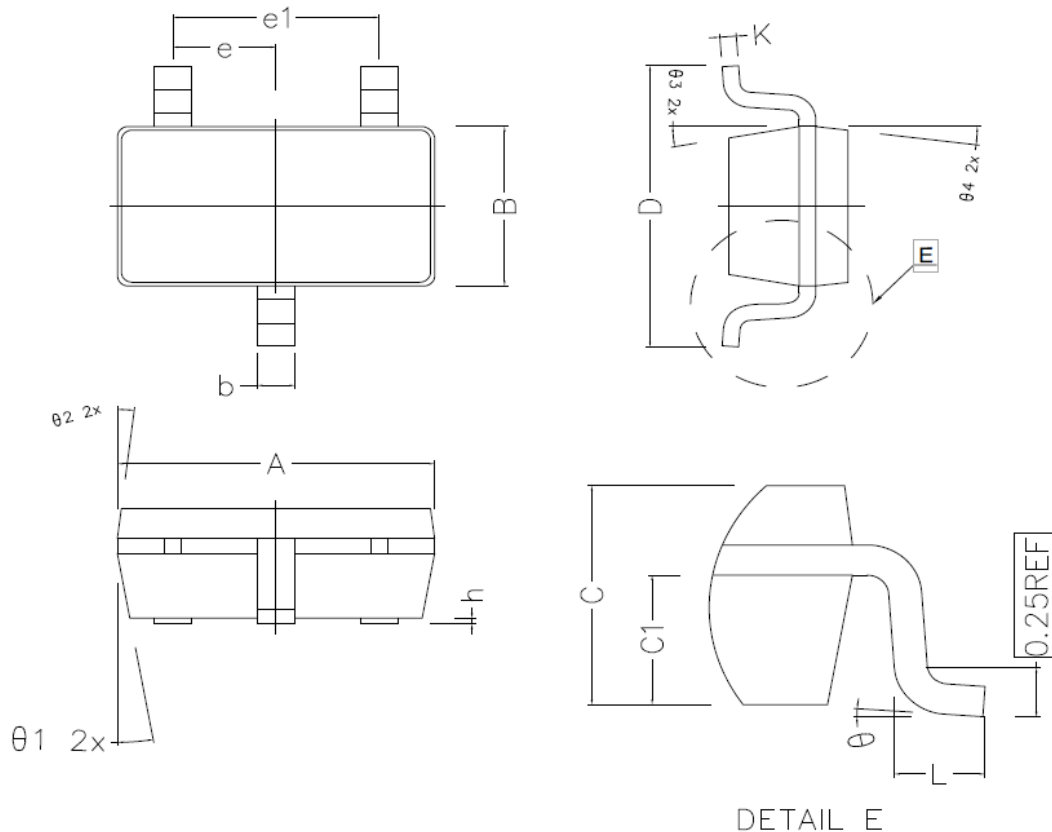


Figure B Switching Test Circuit & Waveforms

**30V/8A N-Channel Advanced Power MOSFET****SOT-23-3L Package Outline Dimensions (Units: mm)**

COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A	2.820	2.920	3.020
B	1.500	1.600	1.700
C	1.050	1.100	1.150
C1	0.600	0.650	0.700
D	2.650	2.800	2.950
L	0.300	0.450	0.600
b	0.280	0.350	0.420
h	0.020	0.050	0.100
K	0.120	—	0.230
e	0.950TYPE		
e1	1.900TYPE		
θ ₁	10° TYPE		
θ ₂	7° TYPE		
θ ₃	10° TYPE		
θ ₄	7° TYPE		
θ	0° ~ 8°		