

## PW4800Q

### 30V Dual N-Channel MOSFET

6.9A 30V;  $R_{DS(ON)typ}=16m\Omega@10V$ ,  $R_{DS(ON)typ}=19m\Omega@4.5V$ ,  
 $R_{DS(ON)typ}=30m\Omega@2.5V$

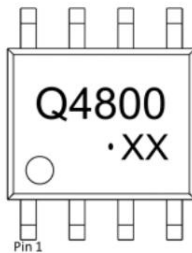
#### FEATURE

- High cell density trench N-ch MOSFETs
- Super low gate charge
- Advanced high cell density Trench technology

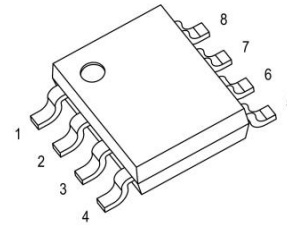
#### Application

- Battery protection applications
- Load switch

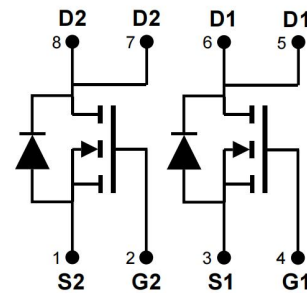
#### MARKING:



#### SOP8



#### Schematic diagram



#### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$I_D$	6.9	A
Pulsed Drain Current	$I_{DM}$	28	A
Power Dissipation	$P_D$	1.25	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	$^\circ\text{C}$

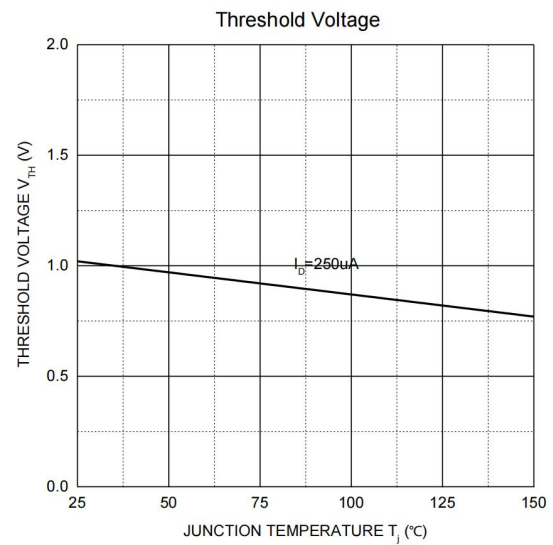
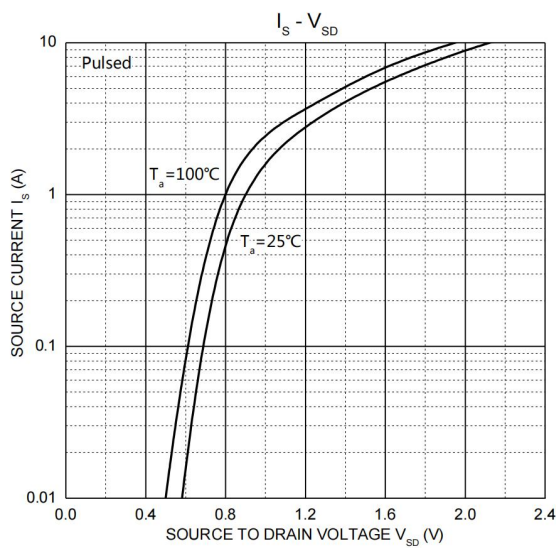
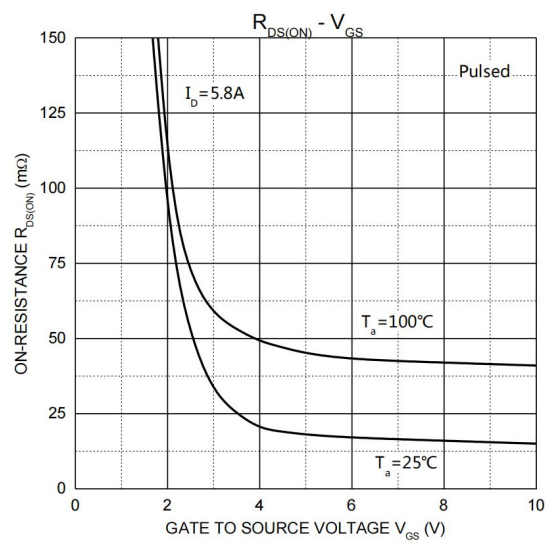
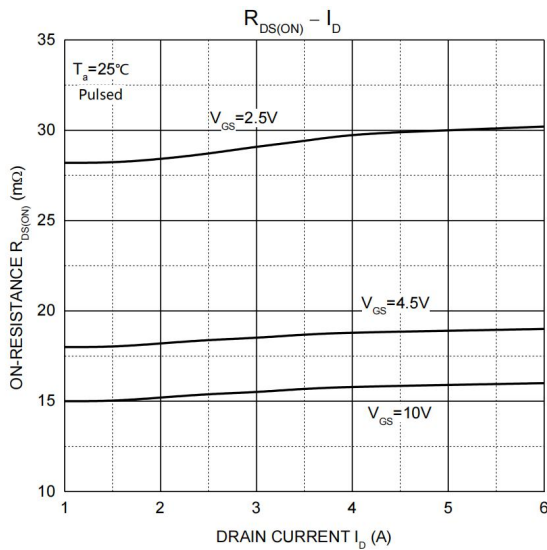
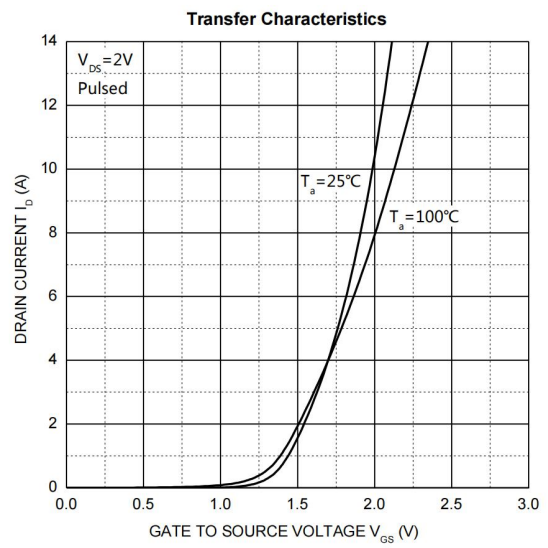
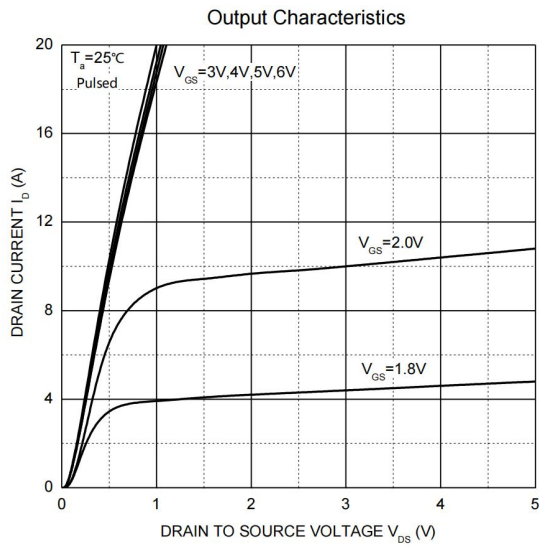
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

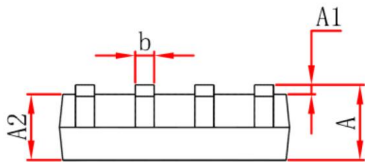
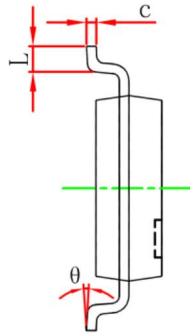
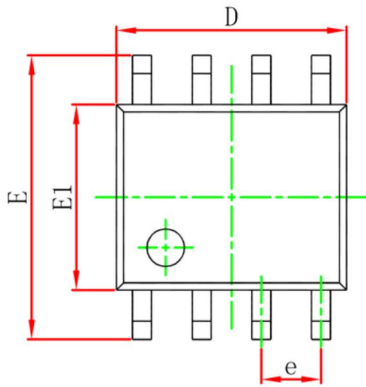
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V			1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±12V, V <sub>DS</sub> = 0V			±0.1	μA
Gate threshold voltage <sup>1</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	0.7	1.0	1.4	V
Drain-source on-resistance <sup>1</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 6.9A		16	21	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 6A		19	25	
		V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 5A		30	40	
Forward transconductance <sup>1</sup>	g <sub>FS</sub>	V <sub>DS</sub> = 5V, I <sub>D</sub> = 5A	8	12		S
<b>DYNAMIC CHARACTERISTICS<sup>2</sup></b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0V, f = 1MHz			1155	pF
Output Capacitance	C <sub>oss</sub>			108		
Reverse Transfer Capacitance	C <sub>rss</sub>			84		
Gate resistance	R <sub>g</sub>	V <sub>DS</sub> = 0V, V <sub>GS</sub> = 0V, f = 1MHz			3.6	Ω
<b>SWITCHING CHARACTERISTICS</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> = 10V, V <sub>DS</sub> = 15V R <sub>L</sub> = 2.7Ω, R <sub>GEN</sub> = 3Ω			5	ns
Turn-on rise time	t <sub>r</sub>				7	
Turn-off delay time	t <sub>d(off)</sub>				40	
Turn-off fall time	t <sub>f</sub>				6	
<b>SOURCE-DRAIN DIODE CHARACTERISTICS</b>						
Diode Forward voltage <sup>1</sup>	V <sub>SD</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = 1A			1	V

**Notes :**

1. Pulse Test : Pulse Width ≤ 300 μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.

**Typical Electrical and Thermal Characteristics**





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
$\theta$	0°	8°	0°	8°