

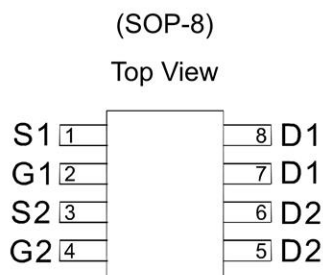
**GENERAL FEATURES**

- $R_{DS(ON)} \leq 35 \text{ m}\Omega @ V_{GS}=10\text{V}$
- $R_{DS(ON)} \leq 45 \text{ m}\Omega @ V_{GS}=4.5\text{V}$
- Super high density cell design for extremely low  $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability

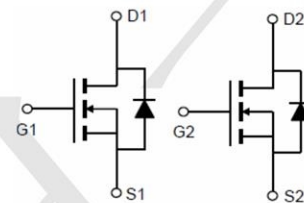
**Application**

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

**Package and Pin Configuration**

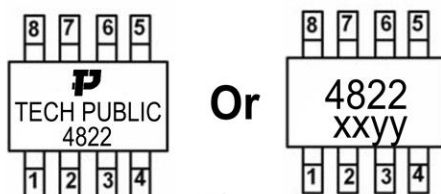


**Circuit diagram**



**Schematic diagram**

**Marking:**



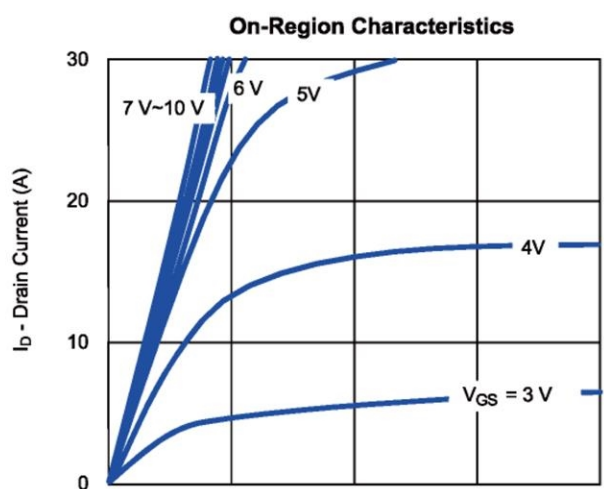
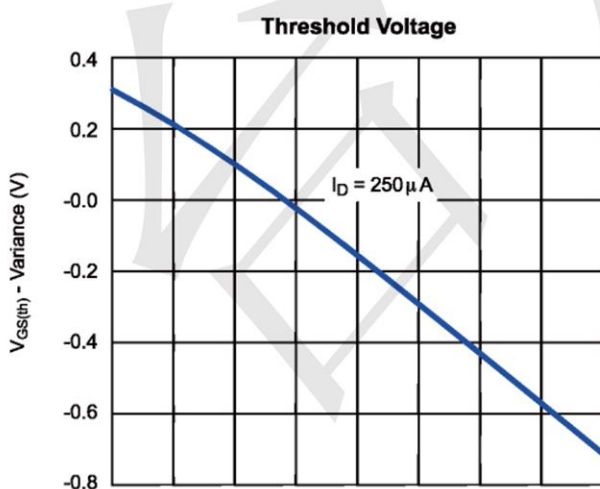
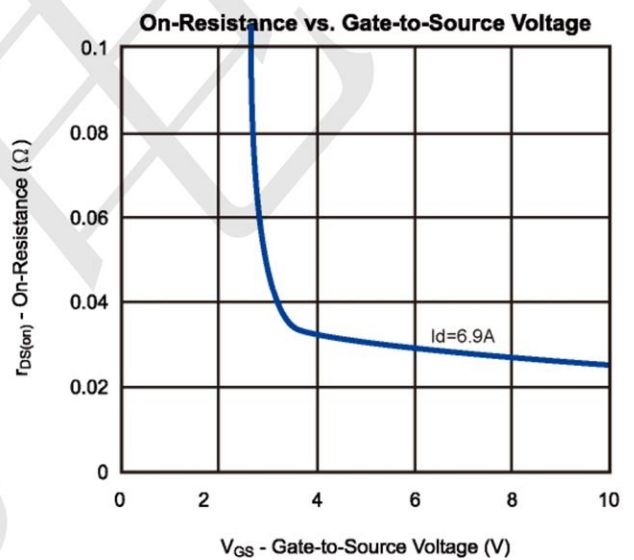
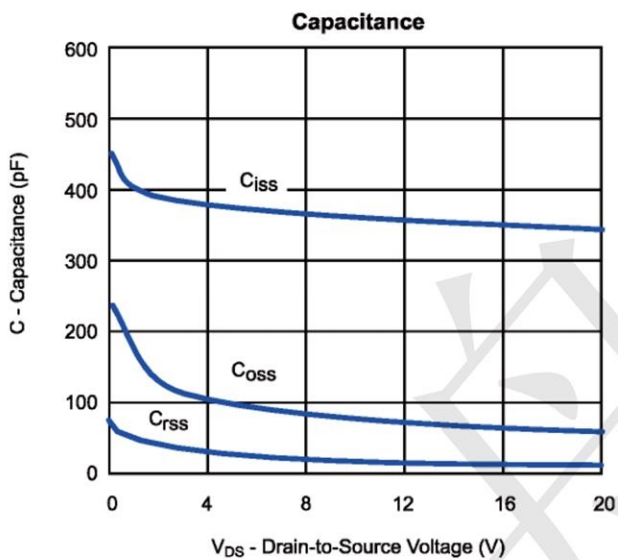
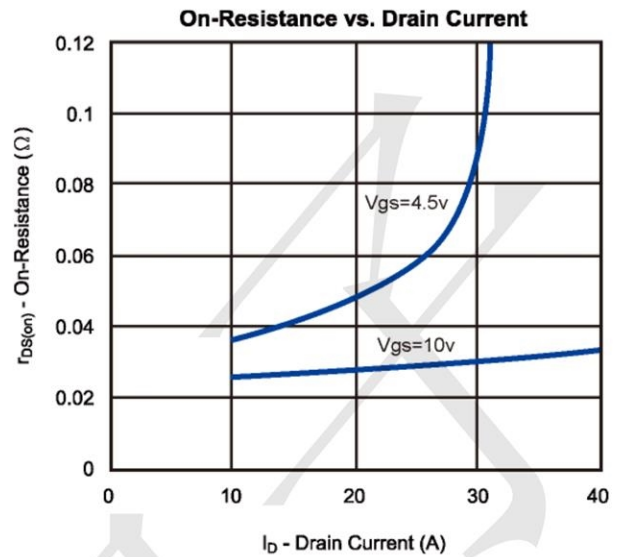
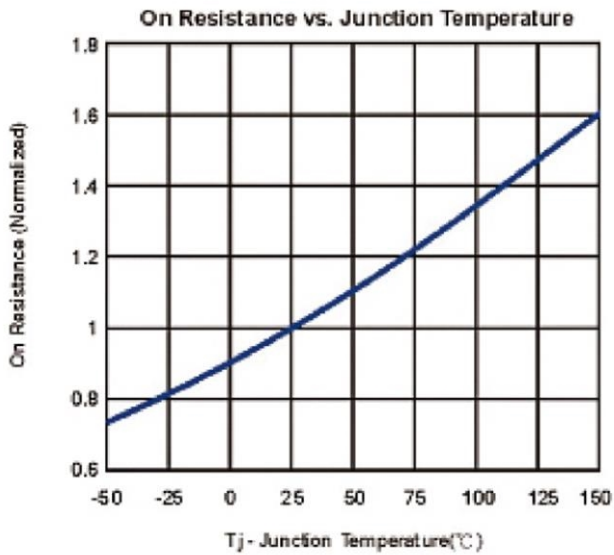
**Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise noted)**

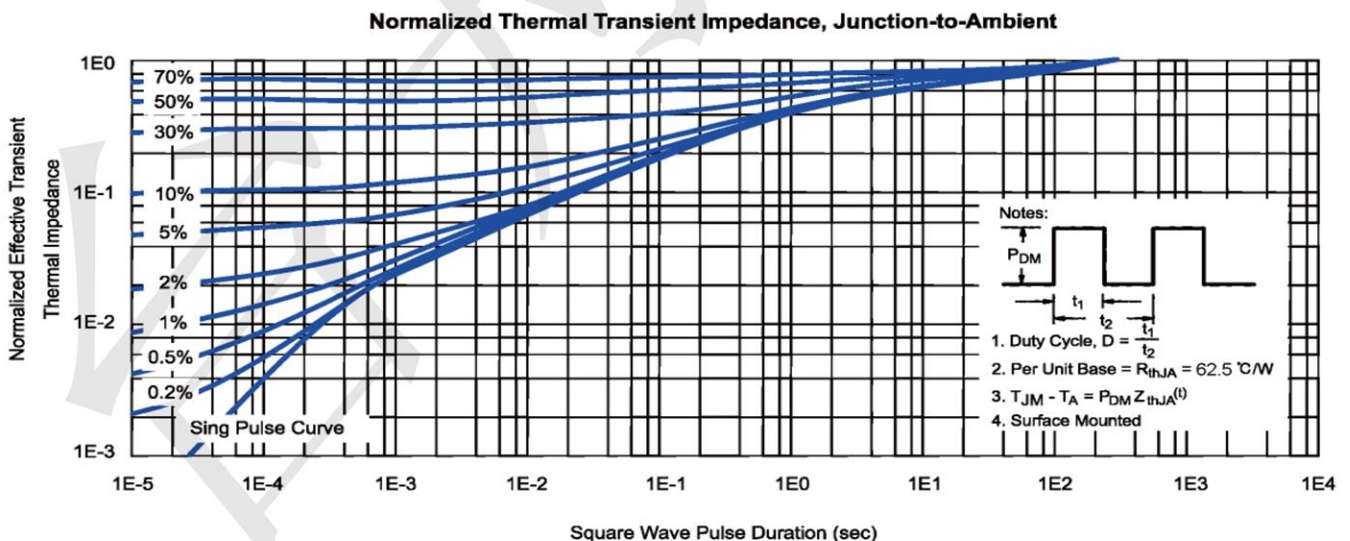
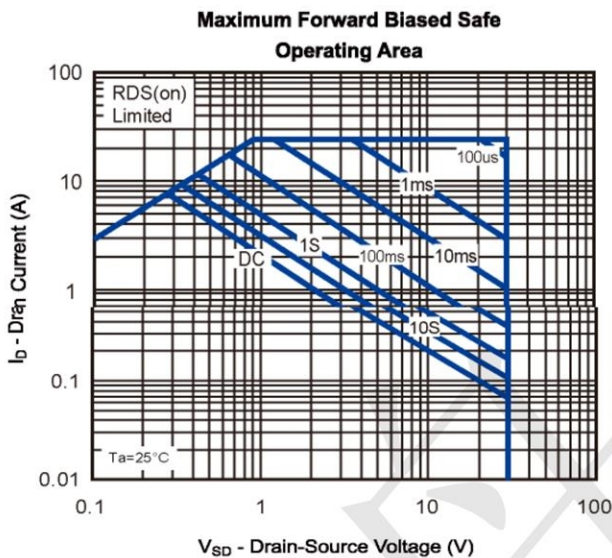
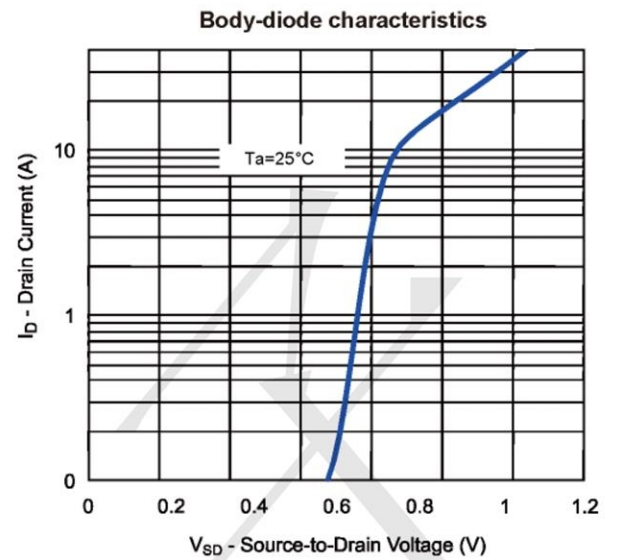
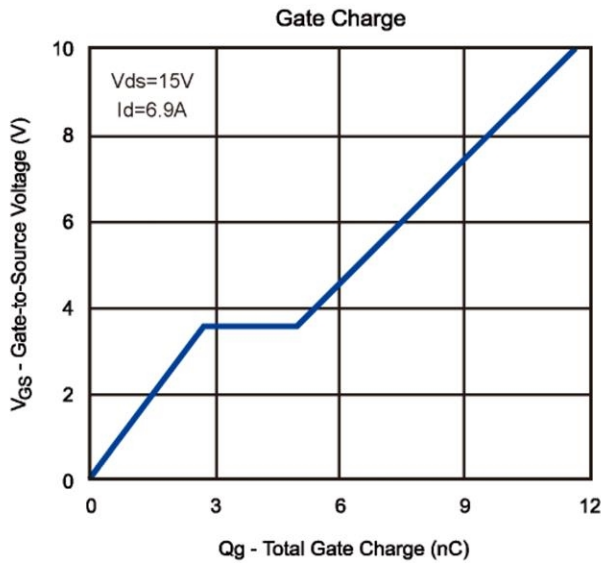
Parameter	Symbol	Maximum Ratings	Unit
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	$T_A=25^\circ\text{C}$	7
		$T_A=70^\circ\text{C}$	4.8
Pulsed Drain Current	$I_{DM}$	24	A
Maximum Power Dissipation	$P_D$	$T_A=25^\circ\text{C}$	2
		$T_A=70^\circ\text{C}$	1.3
Operating Junction Temperature	$T_J$	-55 to 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient*	$R_{\theta JA}$	62.5	$^\circ\text{C}/\text{W}$

**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)**

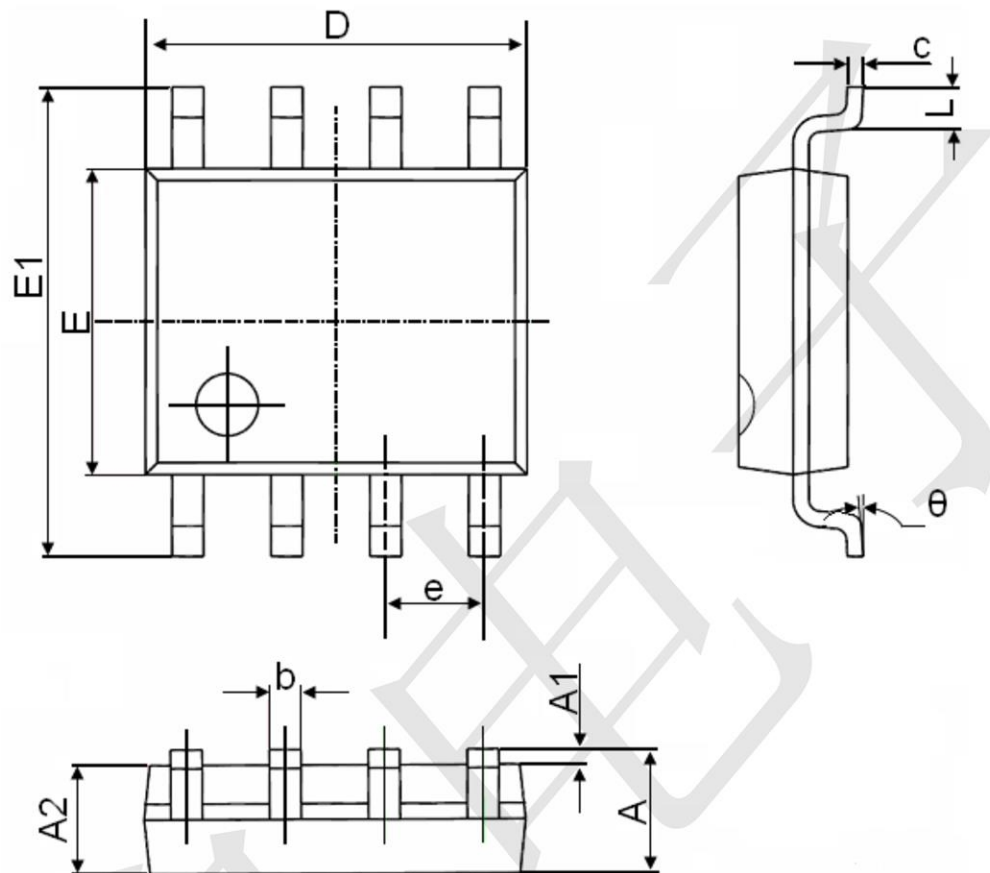
Symbol	Parameter	Limit	Min	Typ	Max	Unit
<b>STATIC</b>						
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V, I <sub>D</sub> =250 μA	30			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250 μA	1		3	V
I <sub>GSS</sub>	Gate Leakage Current	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±100	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V			1	μA
R <sub>DS(ON)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V, I <sub>D</sub> = 6.9A		18	35	mΩ
		V <sub>GS</sub> =4.5V, I <sub>D</sub> = 5.8A		24	45	
V <sub>SD</sub>	Diode Forward Voltage	I <sub>S</sub> =1.7A, V <sub>GS</sub> =0V		0.75	1.2	V
<b>DYNAMIC</b>						
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> =15V, V <sub>GS</sub> =10V, I <sub>D</sub> =6.9A		11.5		nC
Q <sub>gs</sub>	Gate-Source Charge			2.7		
Q <sub>gd</sub>	Gate-Drain Charge			2.3		
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =15V, V <sub>GS</sub> =0V, f=1MHz		350		pF
C <sub>oss</sub>	Output Capacitance			65		
C <sub>rss</sub>	Reverse Transfer Capacitance			16		
t <sub>d(on)</sub>	Turn-On Delay Time	V <sub>DD</sub> =15V, R <sub>L</sub> =15Ω I <sub>D</sub> =1A, V <sub>GEN</sub> =10V R <sub>C</sub> =6Ω		9		ns
t <sub>r</sub>	Turn-On Rise Time			10		
t <sub>d(off)</sub>	Turn-Off Delay Time			32		
t <sub>f</sub>	Turn-Off Fall Time			3.5		

Typical Electrical and Thermal Characteristics





**SOP-8 Package Information**



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	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

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