

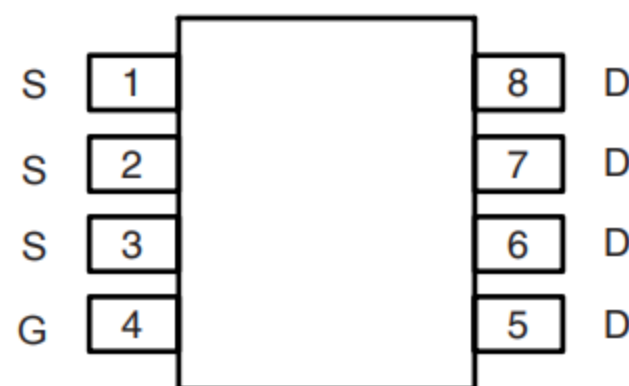
### FEATURES

- 30V/-15A  
 $R_{DS(ON)} = 6.8m\Omega(\text{max.}) @ V_{GS} = -10V$   
 $R_{DS(ON)} = 13m\Omega(\text{max.}) @ V_{GS} = -4.5V$

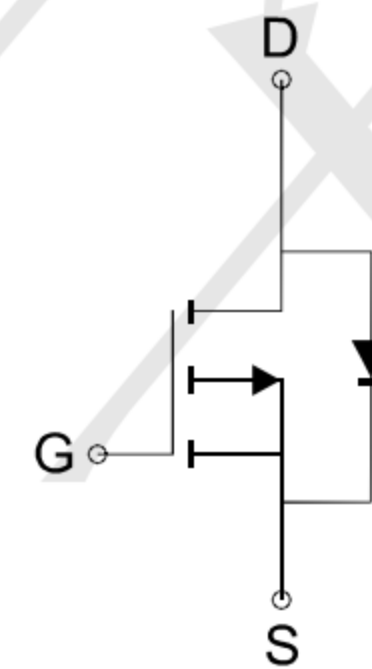
### APPLICATIONS

- Power Management in Notebook Computer, Portable Equipment and Battery Powered Systems.

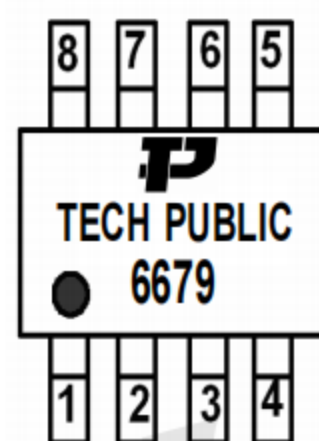
### Package and Pin Configuration



### Circuit diagram



### Marking:



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

Symbol	Parameter	Rating	Unit	
$V_{DSS}$	Drain-Source Voltage	-30	V	
$V_{GSS}$	Gate-Source Voltage	$\pm 20$		
$I_D^a$	Continuous Drain Current ( $V_{GS}=-10V$ )	$T_A=25^\circ\text{C}$	-15	A
		$T_A=70^\circ\text{C}$	-14	
$I_{DM}^a$	Pulsed Drain Current ( $V_{GS}=-10V$ )	-70		
$I_S^a$	Diode Continuous Forward Current	-4		
$I_{AS}^b$	Avalanche Current, Single pulse	$L=0.1\text{mH}$	-42	mJ
$E_{AS}^b$	Avalanche Energy, Single pulse	$L=0.1\text{mH}$	88	
$T_J$	Maximum Junction Temperature	150	$^\circ\text{C}$	
$T_{STG}$	Storage Temperature Range	-55 to 150		
$P_D^a$	Maximum Power Dissipation	$T_A=25^\circ\text{C}$	3.1	W
		$T_A=70^\circ\text{C}$	2	
$R_{\theta JA}^{a,c}$	Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	40	$^\circ\text{C/W}$
		Steady State	75	
$R_{\theta JL}$	Thermal Resistance-Junction to Lead	Steady State	24	

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

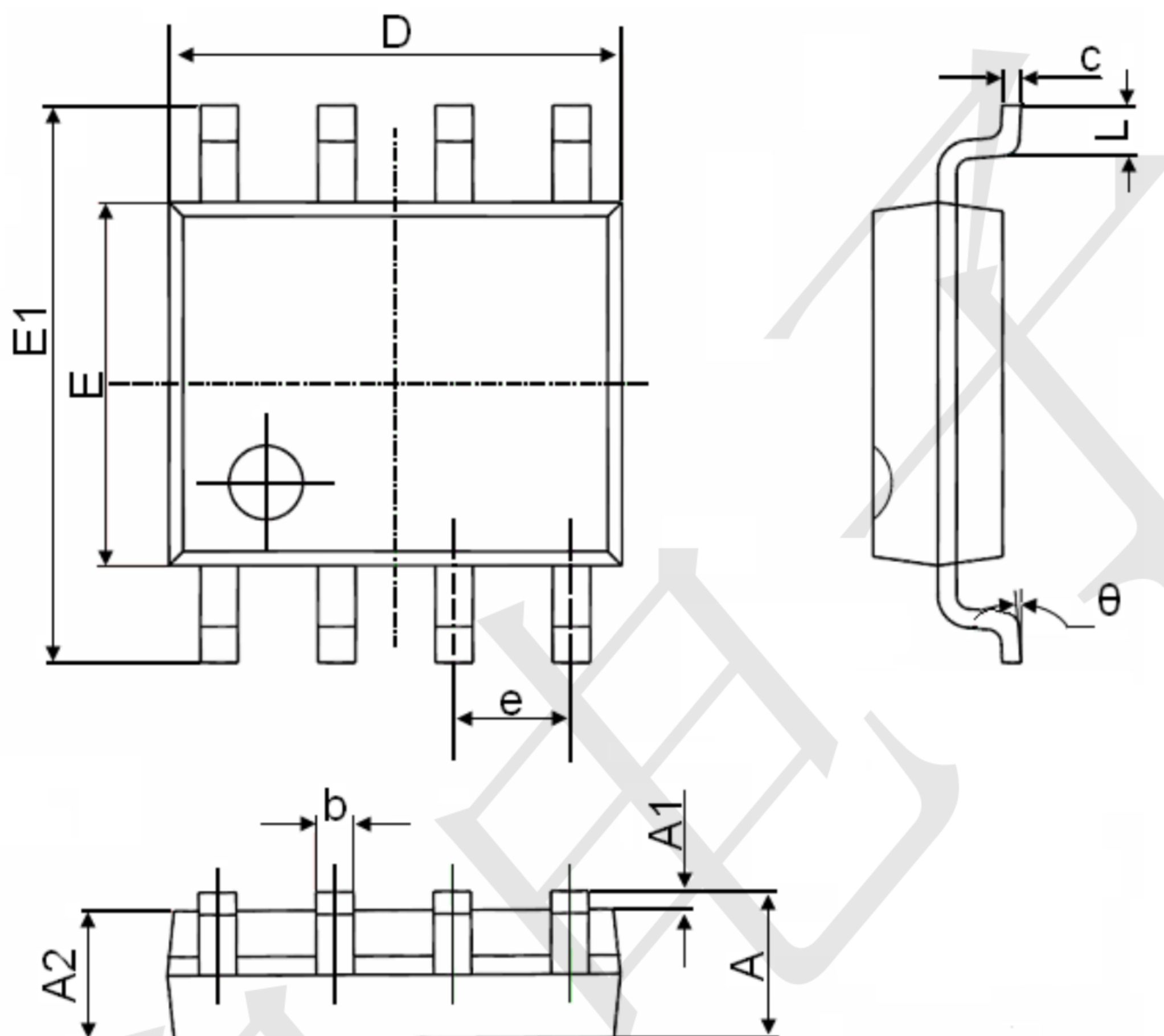
Symbol	Parameter	Test Conditions	TECH PUBLIC			Unit
			Min.	Typ.	Max.	
<b>Static Characteristics</b>						
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V, I <sub>DS</sub> =-250μA	-30	-	-	V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =-24V, V <sub>GS</sub> =0V T <sub>j</sub> =85°C	-	-	-1	μA
			-	-	-30	
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>DS</sub> =-250μA	-1.3	-1.8	-2.3	V
I <sub>GSS</sub>	Gate Leakage Current	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	-	-	±100	nA
R <sub>DS(ON)</sub> <sup>d</sup>	Drain-Source On-state Resistance	V <sub>GS</sub> =-10V, I <sub>DS</sub> =-17.5A	-	5.7	6.8	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>DS</sub> =-10A	-	9	13	
<b>Diode Characteristics</b>						
V <sub>SD</sub> <sup>d</sup>	Diode Forward Voltage	I <sub>SD</sub> =-1A, V <sub>GS</sub> =0V	-	-0.7	-1	V
t <sub>rr</sub> <sup>e</sup>	Reverse Recovery Time	I <sub>SD</sub> =-17.5A,	-	30	-	ns
Q <sub>rr</sub> <sup>e</sup>	Reverse Recovery Charge	di <sub>SD</sub> /dt=100A/μs	-	20	-	nC

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

Symbol	Parameter	Test Conditions	TECH PUBLIC			Unit
			Min.	Typ.	Max.	
<b>Dynamic Characteristics<sup>e</sup></b>						
R <sub>g</sub>	Gate Resistance	V <sub>GS</sub> =0V, V <sub>DS</sub> =0V, F=1MHz	-	2	-	Ω
C <sub>iss</sub>	Input Capacitance	V <sub>GS</sub> =0V, V <sub>DS</sub> =-15V, Frequency=1.0MHz	-	3200	-	pF
C <sub>oss</sub>	Output Capacitance		-	640	-	
C <sub>rss</sub>	Reverse Transfer Capacitance		-	600	-	
t <sub>d(ON)</sub>	Turn-on Delay Time	V <sub>DD</sub> =-15V, R <sub>L</sub> =15Ω, I <sub>DS</sub> =-1A, V <sub>GEN</sub> =-10V, R <sub>G</sub> =6Ω	-	15	-	ns
t <sub>r</sub>	Turn-on Rise Time		-	19	-	
t <sub>d(OFF)</sub>	Turn-off Delay Time		-	88	-	
t <sub>f</sub>	Turn-off Fall Time		-	62	-	
<b>Gate Charge Characteristics<sup>e</sup></b>						
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> =-15V, V <sub>GS</sub> =-10V, I <sub>DS</sub> =-17.5A	-	70	-	nC
Q <sub>gs</sub>	Gate-Source Charge		-	10	-	
Q <sub>gd</sub>	Gate-Drain Charge		-	18	-	



**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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