

Product Summary

- $V_{DS} = -30V, I_D = -8A$
 $R_{DS(ON)} = 18m\Omega @ -10V$
 $R_{DS(ON)} = 20m\Omega @ -4.5V$

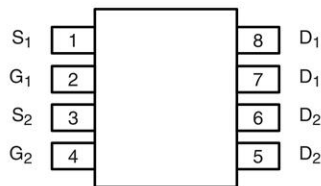
Application

- DC-DC Converters.
- Load Switch.
- Power Management.

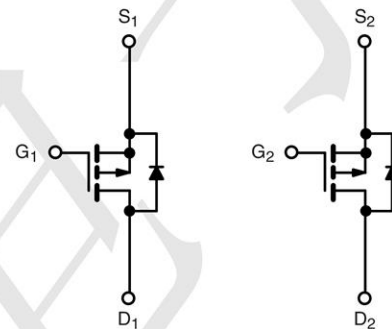
Package and Pin Configuration



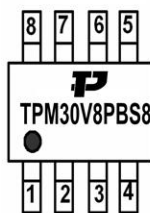
SOP-8 top view



Circuit diagram



Marking:



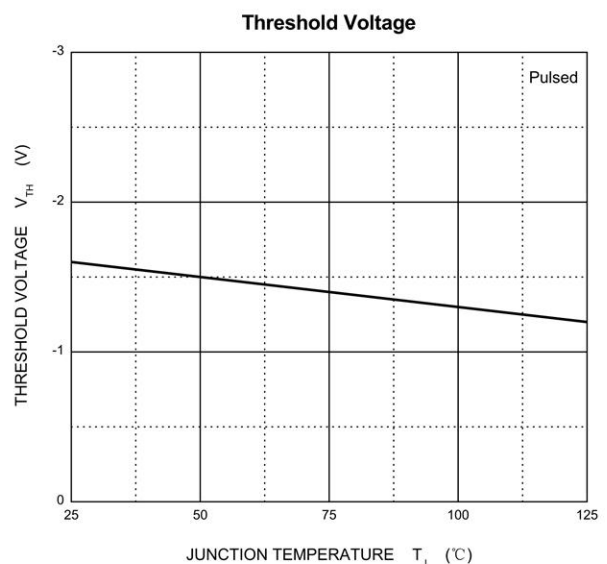
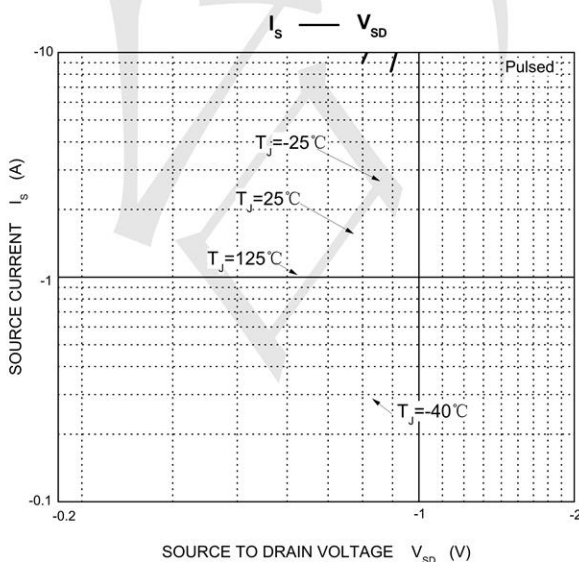
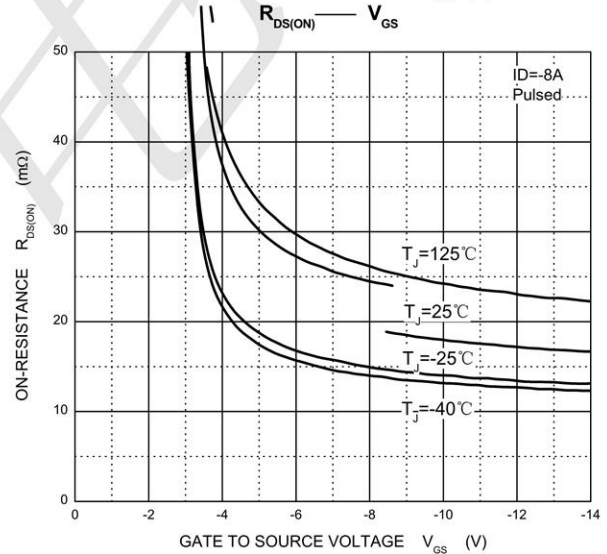
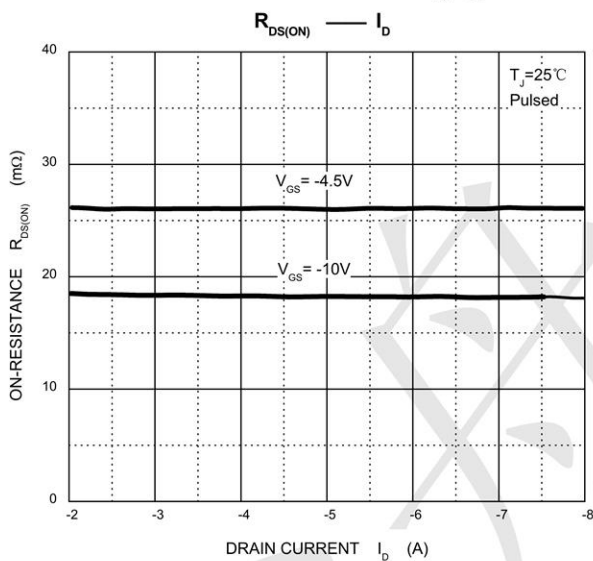
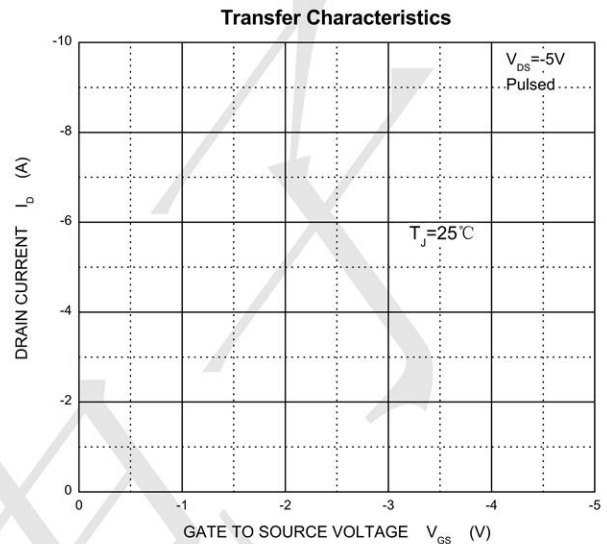
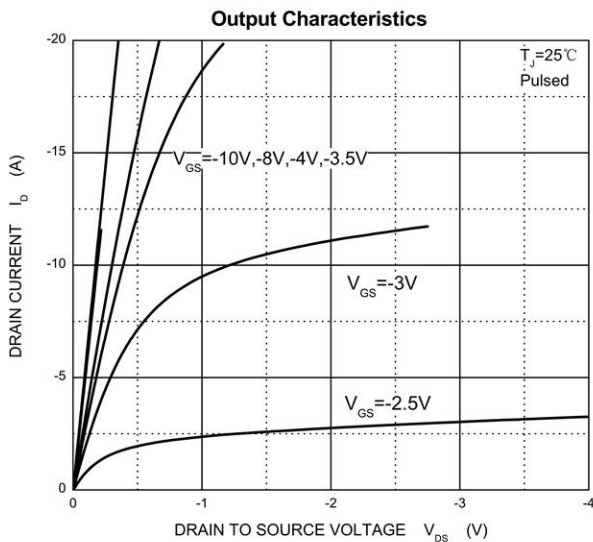
Absolute Maximum Ratings ($T_A = 25^\circ C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	$I_D^{(1)}$	-8	A
Pulsed Drain Current	$I_{DM}^{(2)}$	-32	
Power Dissipation	$P_D^{(5)}$	3.0	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}^{(5)}$	41.6	$^\circ C/W$
Operating Junction and Storage Temperature	T_J, T_{stg}	-55 ~ +150	$^\circ C$

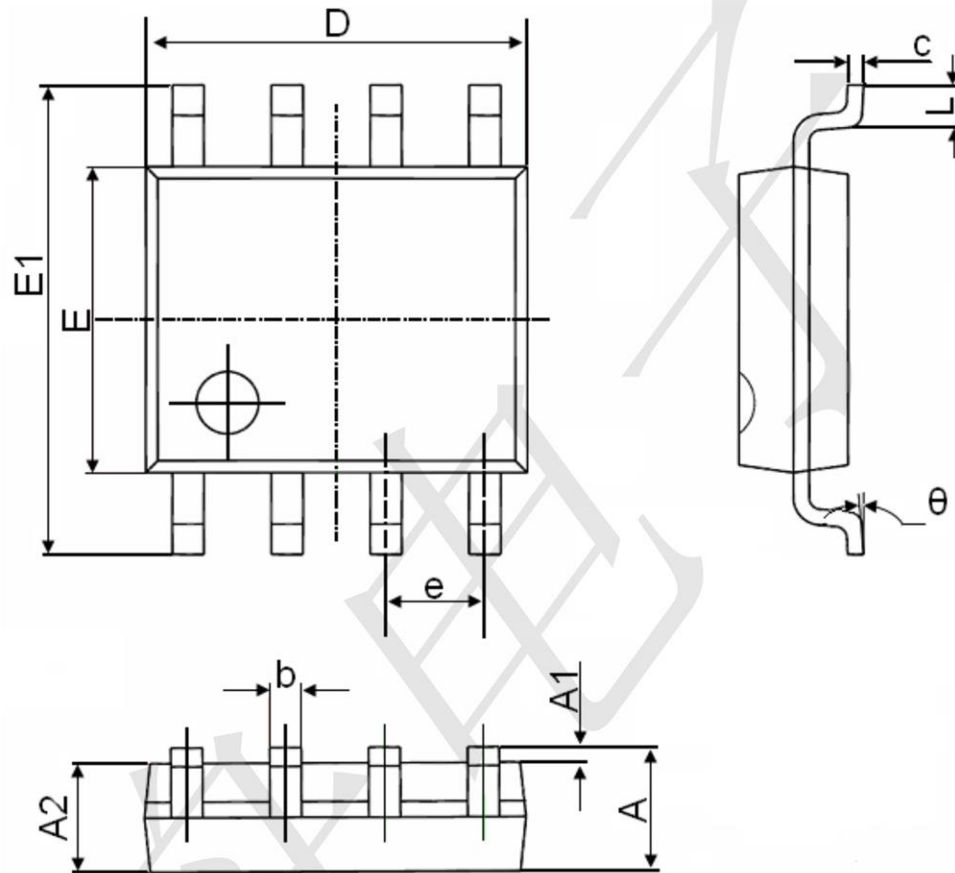
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$	$T_J = 25^\circ\text{C}$		-15	μA
			$T_J = 125^\circ\text{C}$		-100	
Gate-body leakage current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
On characteristics ^③						
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.0	-1.6	-2.5	V
Static drain-source on-state resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -8A$		18	25	m Ω
		$V_{GS} = -4.5V, I_D = -4.5A$		20	35	m Ω
Forward transconductance	g_{fs}	$V_{DS} = -10V, I_D = -8A$		16		S
Dynamic characteristics ^{③④}						
Input capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		1650		pF
Output capacitance	C_{oss}			345		
Reverse transfer capacitance	C_{rss}			285		
Switching characteristics ^{③④}						
Total gate charge	Q_g	$V_{GS} = -10V, V_{DS} = -15V, I_D = -8A$		39		nC
Gate-source charge	Q_{gs}			9.8		
Gate-drain charge	Q_{gd}			8.3		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -15V, I_D = -1A, V_{GS} = -10V, R_G = 6\Omega, R_D = 15\Omega$		12		ns
Turn-on rise time	t_r			16		
Turn-off delay time	$t_{d(off)}$			125		
Turn-off fall time	t_f			72		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage	V_{SD} ^③	$V_{GS} = 0V, I_S = -2A$			-1.2	V
Continuous drain-source diode forward current	I_S ^①				-8	A
Pulsed drain-source diode forward current	I_{SM} ^②				-32	A

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



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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