TECH PUBLIC
台舟电子

TPM30V8PBS8-1

Dual P-Channel MOSFET

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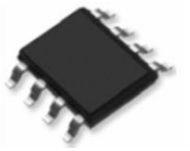
Product Summary

- V_{DS} =-30V,I_D =-8.5A
  $R_{DS(ON)}$ 18mΩ@-10V
  $R_{DS(ON)}$ 20mΩ@-4.5V

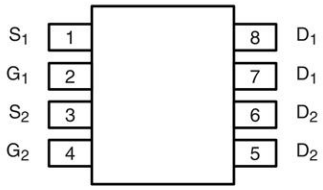
Application

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

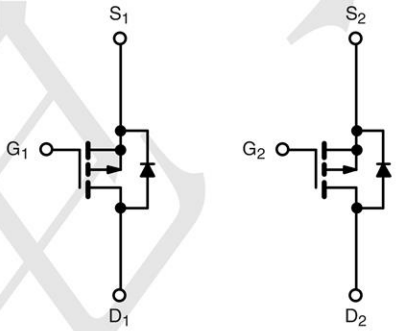
Package and Pin Configuration



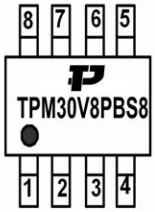
SOP-8 top view



Circuit diagram



Marking:



Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

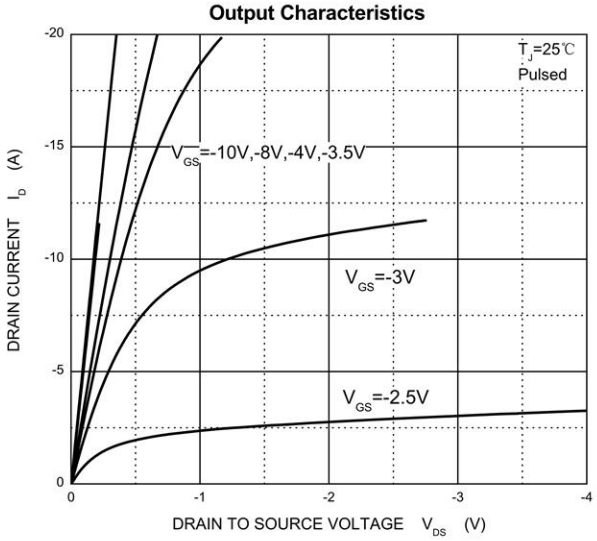
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D ①	-8.5	A
Pulsed Drain Current	I_{DM} ②	-32	
Power Dissipation	P_D ⑤	3.0	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$ ⑤	41.6	℃/W
Operating Junction and Storage Temperature	T_J, T_{stg}	-55 ~+150	℃

Electrical Characteristics (T_A = 25°C unless otherwise noted)

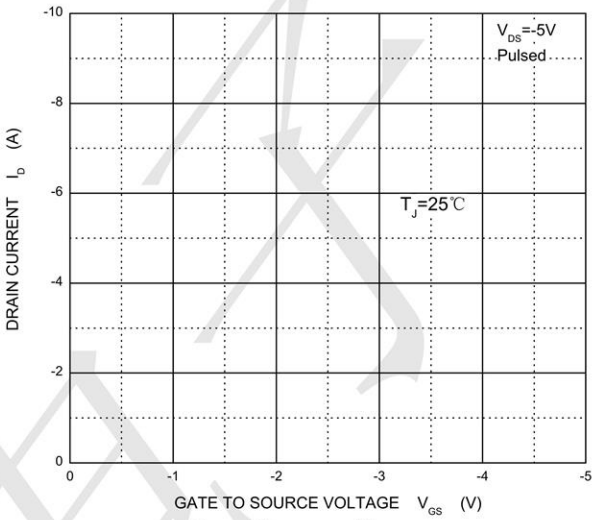
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-24V, V_{GS} =0V, T_J =25℃			-15	μA
		V_{DS} =-24V, V_{GS} =0V, T_J =125℃			-100	
Gate-body leakage current	I_{GSS}	V_{DS} =0V, V_{GS} =±20V			±100	nA
On characteristics ③						
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-1.0	-1.6	-2.5	V
Static drain-source on-sate resistance	$R_{DS(on)}$	V_{GS} =-10V, I_D =-8.5A		18	25	mΩ
		V_{GS} =-4.5V, I_D =-5 A		27	35	mΩ
Forward transconductance	g_{FS}	V_{DS} =-10V, I_D =-8.5 A		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=6Ω, R_D=15Ω		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°C unless otherwise Specified)

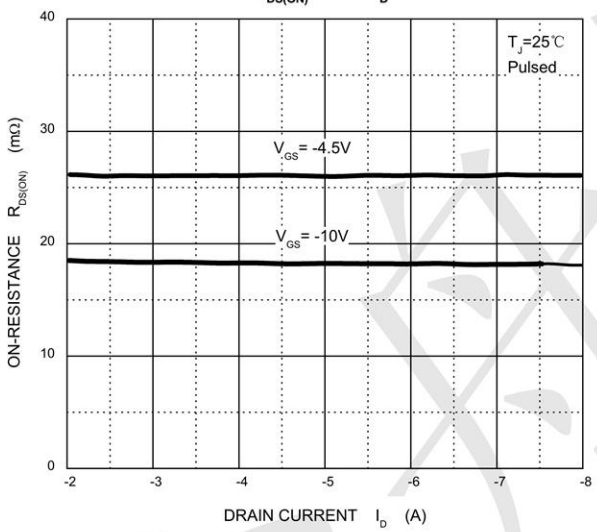
Output Characteristics



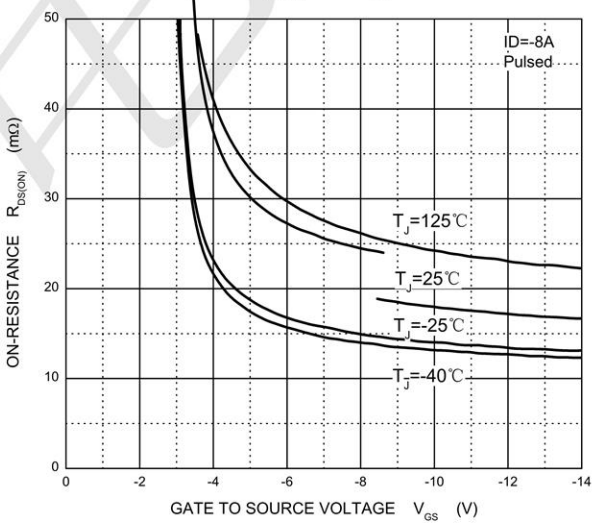
Transfer Characteristics



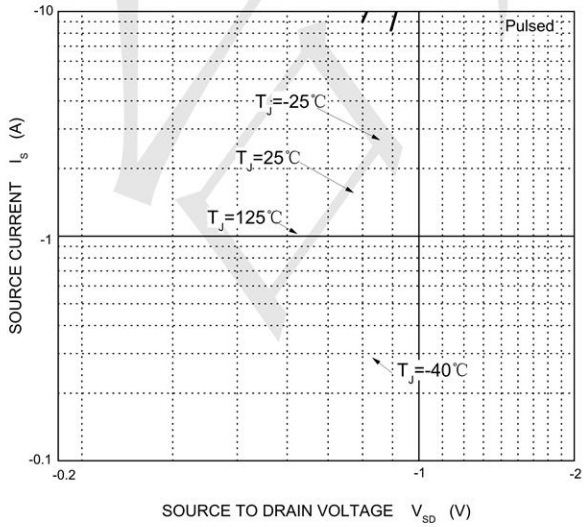
$R_{DS(ON)}$ —— I_D



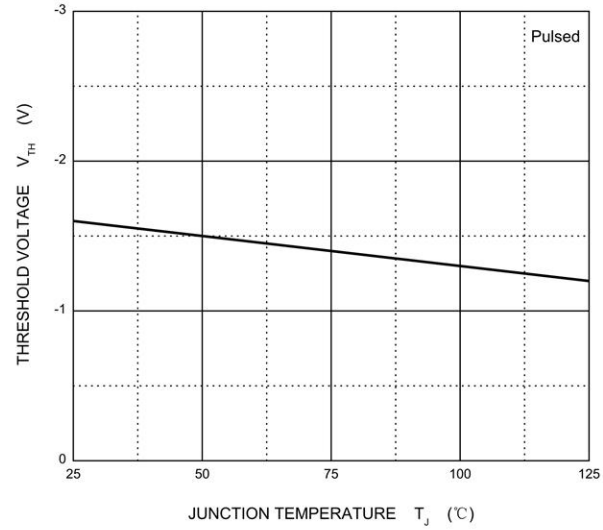
$R_{DS(ON)}$ —— V_{GS}



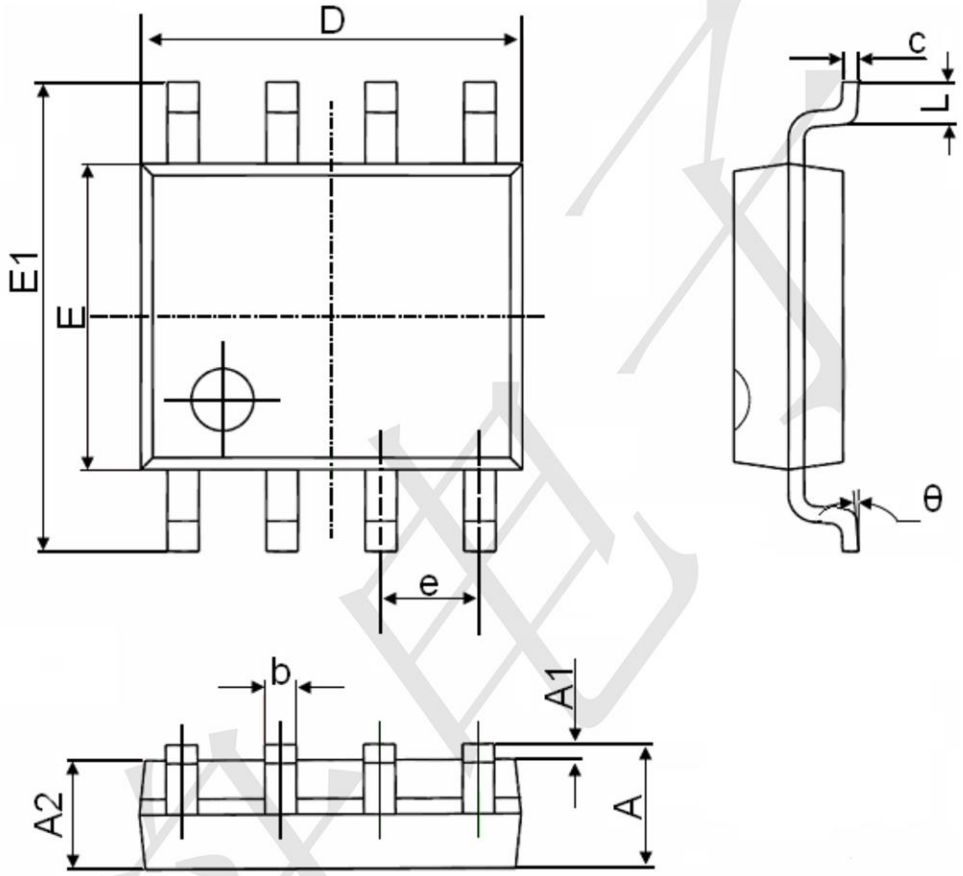
I_S —— V_{SD}



Threshold Voltage



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°