

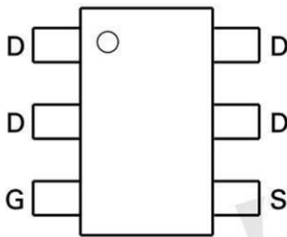
**Product Summary**

- 60V/ 5A  
 $R_{DS(ON)} = 25m\Omega (Typ) @ V_{GS} = -10V$   
 $R_{DS(ON)} = 30m\Omega (Typ) @ V_{GS} = -4.5V$
- Reliable and Rugged
- Lead Free and Green Devices Available (RoHS Compliant)

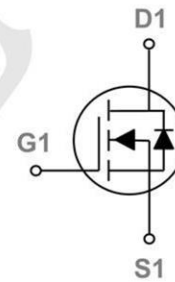
**Application**

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

**Package and Pin Configuration**



**Circuit diagram**



**Marking:**



“P” is TECHPUBLIC LOGO  
 “XXXX” Marking ID (Please see the last page for details )

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	5	A
Pulsed Drain Current (note 1)	$I_{DM}$	30	A
Power Dissipation	$P_D$	1.7	A
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	106	$^\circ C/W$
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature	$T_{STG}$	-55~+150	$^\circ C$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate-Threshold Voltage <sup>(Note3)</sup>	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.0		3.0	V
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0V$			1	$\mu A$
Drain-Source On-Resistance <sup>(Note3)</sup>	$R_{DS(on)}$	$V_{GS}=10V, I_D=3A$		25	29	m $\Omega$
		$V_{GS}=4.5V, I_D=3A$		30	35	
Forward Transconductance <sup>(Note3)</sup>	$g_{fs}$	$V_{DS}=5V, I_D=4.5A$	11			S
<b>Dynamic Characteristics<sup>(Note4)</sup></b>						
Input Capacitance	$C_{iss}$	$V_{DS}=30V, V_{GS}=0V, f=1\text{MHz}$		500		pF
Output Capacitance	$C_{oss}$		60			
Reverse Transfer Capacitance	$C_{rss}$		25			
<b>Switching Characteristics<sup>(Note4)</sup></b>						
Total Gate Charge	$Q_g$	$V_{DS}=48V, V_{GS}=10V, I_D=15A$		12		nC
Gate-Source Charge	$Q_{gs}$		4.1			
Gate-Drain Charge	$Q_{gd}$		4.5			
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=30V, V_{GS}=10V, I_D=2A, R_G=3\Omega, R_L=6.7\Omega$		5.0		ns
Turn-on Rise Time	$t_r$		2.6			
Turn-off Delay Time	$t_{d(off)}$		16.1			
Turn-off Fall Time	$t_f$		2.3			
<b>Drain-Source Diode Characteristics</b>						
Diode Forward Voltage <sup>(Note3)</sup>	$V_{SD}$	$V_{GS}=0V, I_s=20A$			1.2	V
Diode Forward Current <sup>(Note2)</sup>	$I_s$				20	A
Reverse Recovery Time	$t_{rr}$	$I_F=20A, di/dt=100A/\mu s$ <sup>(Note4)</sup>		35		nS
Reverse Recovery Charge	$Q_{rr}$			53		$\mu C$
Forward Turn-On Time	$t_{on}$	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)				



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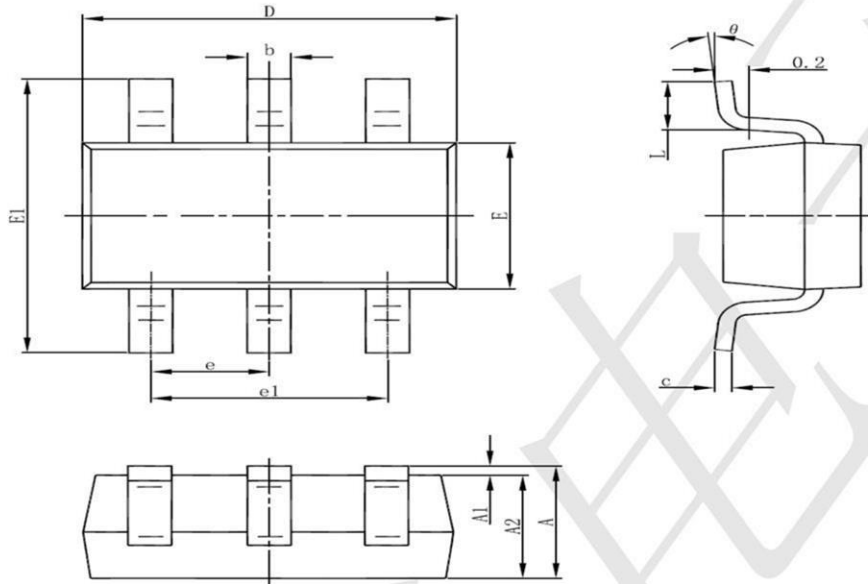
台丹电子

ZXMN6A08E6TA

60V N-CHANNEL ENHANCEMENT MODE MOSFET

www.sot23.com.tw

SOT23-6 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
$\theta$	0°	8°	0°	8°

Marking:



“P” is TECHPUBLIC LOGO  
 “4N” is Part number, fixed  
 “xx” is internal code

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