TECH PUBLIC
台舟电子

AO6420

60V N-CHANNEL ENHANCEMENT MODE MOSFET

www.sot23.com.tw

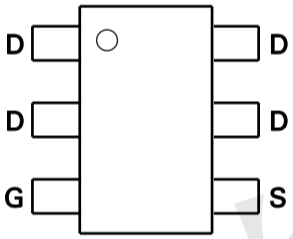
Product Summary

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

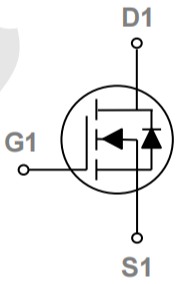
Application

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

Package and Pin Configuration



Circuit diagram



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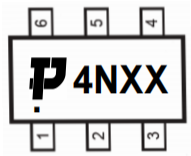
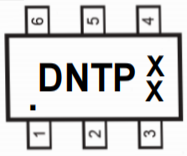


Or



"P" is TECHPUBLIC LOGO
" 4N" is Part Number,fixed
" xx" is internal code

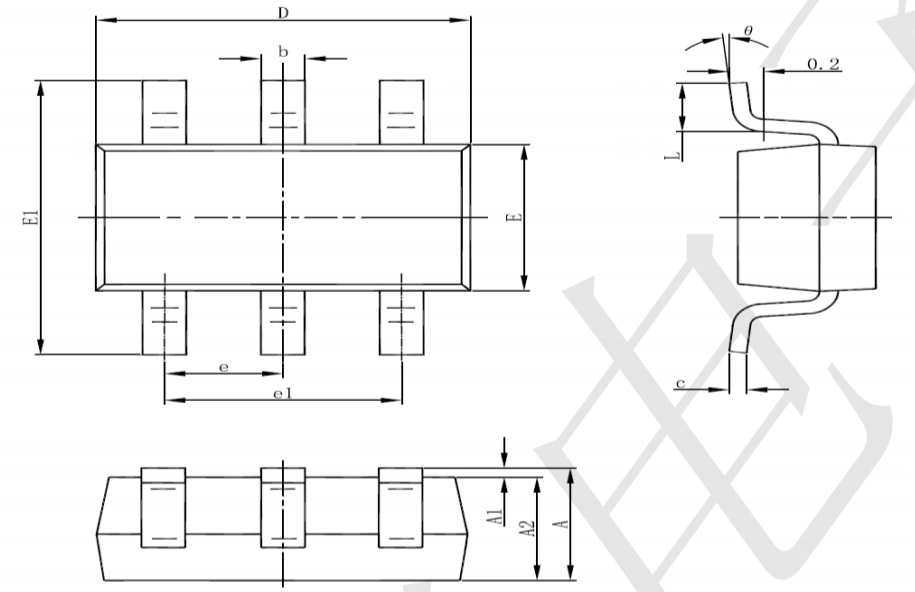
Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±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	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃

Electrical Characteristics (T_A=25℃unless otherwise noted)

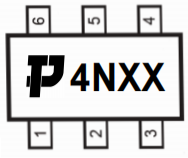
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	60			V
Gate-Threshold Voltage(Note3)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.0		3.0	V
Gate-Body Leakage Current	I_{GSS}	V_{GS} =± 20V, V_{DS} =0V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =60V, V_{GS} =0V			1	μA
Drain-Source On-Resistance(Note3)	$R_{DS(on)}$	V_{GS}=10V, I_D=3A		25	29	mΩ
		V_{GS}=4.5V, I_D=3A		30	35	
Forward Transconductance(Note3)	g_{fs}	V_{DS}=5V, I_D=4.5A	11			S
Dynamic Characteristics(Note4)						
Input Capacitance	C_{iss}	V_{DS}=30V,V_{GS}=0V, f=1MHz		500		pF
Output Capacitance	C_{oss}			60		
Reverse Transfer Capacitance	C_{rss}			25		
Switching Characteristics(Note4)						
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 =3Ω, R_L=6.7Ω		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		
Drain-Source Diode Characteristics						
Diode Forward Voltage(Note3)	V_{SD}	V_{GS}=0V, I_s=20A			1.2	V
Diode Forward Current(Note2)	I_S				20	A
Reverse Recovery Time	t_{rr}	I_F=20A,di/dt=100A/us(Note4)		35		nS
Reverse Recovery Charge	Q_{rr}			53		μC
Forward Turn-On Time	t_{on}	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)				

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
θ	0°	8°	0°	8°

Marking:



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