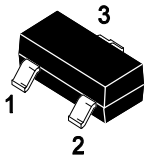
P-Channel 30V(D - S) MOSFET

LP3401ALT1G

●APPLICATIONS

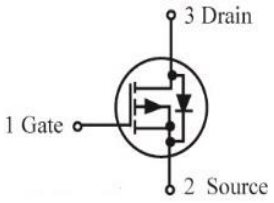
1)Power Management in Note book.
2)Portable Equipment.
3)Battery Powered System.
4)Load Switch.
5)We declare that the material of product compliant with RoHS requirements and Halogen Free.



SOT23E

●FEATURES

1)V_{DS} =-30V
2)RDS(ON) < 100mΩ (VGS = - 10V)
3)RDS(ON) < 110mΩ (VGS = - 4.5V)
4)RDS(ON) < 130mΩ (VGS = - 2.5V)



●DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LP3401ALT1G	P1A	3000/Tape&Reel
LP3401ALT3G	P1A	10000/Tape&Reel

●MAXIMUM RATINGS(Ta = 25℃)

Parameter		Symbol	Limits	Unit
Drain−to−Source Voltage		V_{DSS}	-30	V
Gate−to−Source Voltage		V_{GS}	±12	V
Continuous Drain Current	T_A = 25°C	I_D	-3.2	A
	T_A = 75°C		-2.5	
Pulsed Drain Current		I_{DM}	-16	A
Maximum Power Dissipation	T_A = 25°C	P_D	1.4	W
	T_A = 75°C		1.00	
Junction and Storage Temperature Range		T_J, Tstg	–55 to +150	°C

●THERMAL CHARACTERISTICS (Ta = 25℃)

Parameter		Symbol	Typ.	Max.	Unit
Maximum Junction-to-Ambient	t ⩽ 10s	$R_{\theta JA}$	65	90	°C/W
Maximum Junction-to-Ambient	Steady-State		85	125	°C/W
Maximum Junction-to-Lead	Steady-State	$R_{\theta JL}$	43	60	°C/W

LP3401ALT1G

●ELECTRICAL CHARACTERISTICS (Ta= 25℃)

STATIC

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	-30	–	–	V	I_D=-250μA, V_{GS}=0V
Zero Gate Voltage Drain Current	I_{DSS}	–		-1	μA	V_{DS}=-24V, V_{GS}=0V
Gate-Body leakage current	I_{GSS}	–	–	±100	nA	V_{DS}=0V, V_{GS}=±12V
Gate Threshold Voltage	$V_{GS(th)}$	-0.6	–	-1.3	V	V_{DS}=V_{GS}, I_D=-250μA
On state drain current	$I_{D(ON)}$	-25	–		A	V_{GS}=-4.5V, V_{DS}=-5V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	–	–	100	mΩ	V_{GS}=-10V, I_D=-4.2A
		–	–	110	mΩ	V_{GS}=-4.5V, I_D=-4A
		–	–	130	mΩ	V_{GS}=-2.5V, I_D=-2A
Forward Transconductance	g_{FS}	7	11		S	V_{DS}=-5V, I_D=-5A
Diode Forward Voltage	V_{SD}		-0.7	-1	V	I_S=-1A,V_{GS}=0V
Maximum Body-Diode Continuous Current	I_S			-2.2		

DYNAMIC PARAMETERS

Input Capacitance	Ciss		1020		pF	V_{GS}=0V, V_{DS}=-15V, f=1MHz
Output Capacitance	Coss		60		pF	
Reverse Transfer Capacitance	Crss		48		pF	

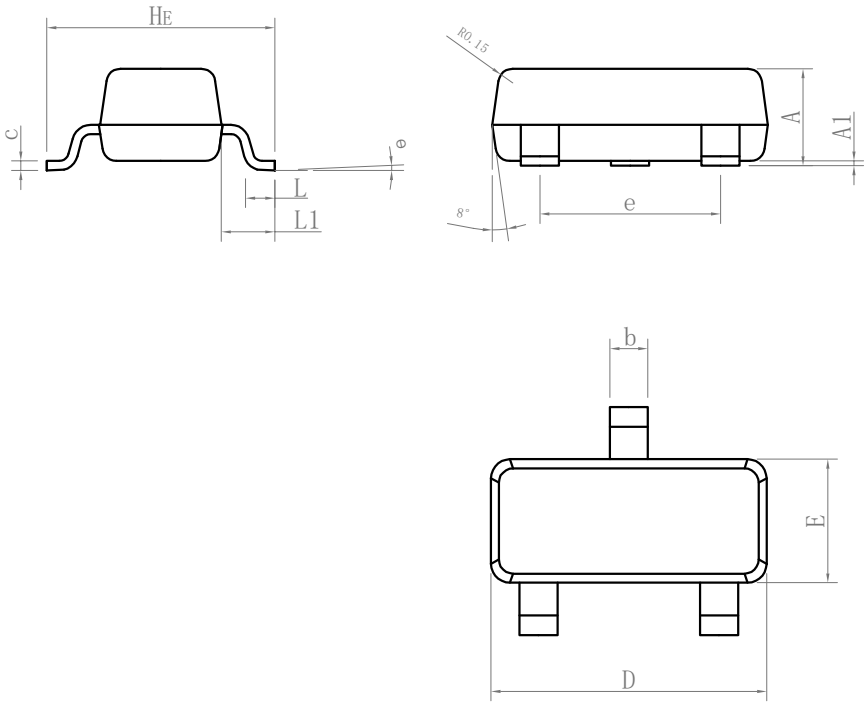
SWITCHING PARAMETERS

Total Gate Charge	QG	–	9.2	–	nC	V_{GS}=-4.5V, V_{DS}=-15V, I_D=-5.3A
Gate−to−Source Gate Charge	QGS	–	3.2	–		
Gate−to−Drain Charge	QGD	–	2.3	–		
Turn−On Delay Time	td(on)	–	41	–	ns	V_{GS}=-10V, V_{DS}=-15V, R_L=3.6Ω, R_{GEN}=6Ω
Rise Time	tr	–	27	–		
Turn−Off Delay Time	td(off)	–	57	–		
Fall Time	tf	–	6	–		

LP3401ALT1G

OUTLINE AND DIMENSIONS

SOT-23E

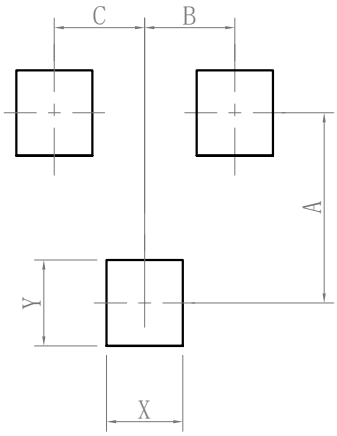


SOT23E			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.15	0.20
D	2.80	2.90	3.00
E	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.45	0.55	0.65
HE	2.20	2.40	2.60
θ	0°	-	10°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um

SOLDERING FOOTPRINT



SOT23E	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95