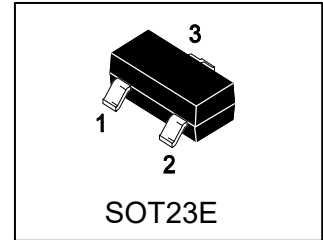


P-Channel 30V(D- S) MOSFET

● APPLICATIONS

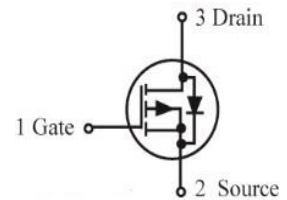
- 1) Power Management in Note book.
- 2) Portable Equipment.
- 3) Battery Powered System.
- 4) Load Switch.
- 5) We declare that the material of product compliant with RoHS requirements and Halogen Free.

P3401A



● FEATURES

- 1) $V_{DS} = -30V$
- 2) $R_{DS(ON)} < 100m\Omega$ ($V_{GS} = -10V$)
- 3) $R_{DS(ON)} < 110m\Omega$ ($V_{GS} = -4.5V$)
- 4) $R_{DS(ON)} < 130m\Omega$ ($V_{GS} = -2.5V$)



● DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
P3401A	P1A	3000/Tape&Reel

● MAXIMUM RATINGS ($T_a = 25^\circ C$)

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

● THERMAL CHARACTERISTICS ($T_a = 25^\circ C$)

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



● ELECTRICAL CHARACTERISTICS (Ta= 25°C)
STATIC

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	-30	-	-	V	$I_D=-250\mu A, V_{GS}=0V$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	-1	μA	$V_{DS}=-24V, V_{GS}=0V$
Gate-Body leakage current	I_{GSS}	-	-	± 100	nA	$V_{DS}=0V, V_{GS}=\pm 12V$
Gate Threshold Voltage	$V_{GS(th)}$	-0.6	-	-1.3	V	$V_{DS}=V_{GS}, I_D=-250\mu A$
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	m Ω	$V_{GS}=-10V, I_D=-4.2A$
		-	-	110	m Ω	$V_{GS}=-4.5V, I_D=-4A$
		-	-	130	m Ω	$V_{GS}=-2.5V, I_D=-2A$
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	-	-

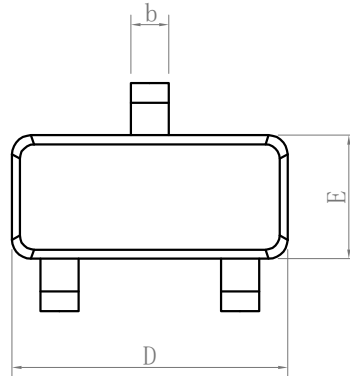
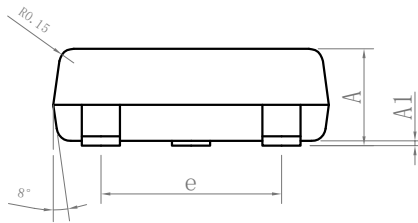
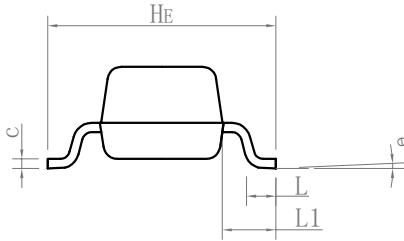
DYNAMIC PARAMETERS

Input Capacitance	C_{iss}	-	1020	-	pF	$V_{GS}=0V, V_{DS}=-15V,$ $f=1MHz$
Output Capacitance	C_{oss}	-	60	-	pF	
Reverse Transfer Capacitance	C_{rss}	-	48	-	pF	

SWITCHING PARAMETERS

Total Gate Charge	Q_G	-	9.2	-	nC	$V_{GS}=-4.5V, V_{DS}=-15V,$ $I_D=-5.3A$
Gate-to-Source Gate Charge	Q_{GS}	-	3.2	-		
Gate-to-Drain Charge	Q_{GD}	-	2.3	-		
Turn-On Delay Time	$t_{d(on)}$	-	41	-	ns	$V_{GS}=-10V, V_{DS}=-15V,$ $R_L=3.6\Omega, R_{GEN}=6\Omega$
Rise Time	t_r	-	27	-		
Turn-Off Delay Time	$t_{d(off)}$	-	57	-		
Fall Time	t_f	-	6	-		

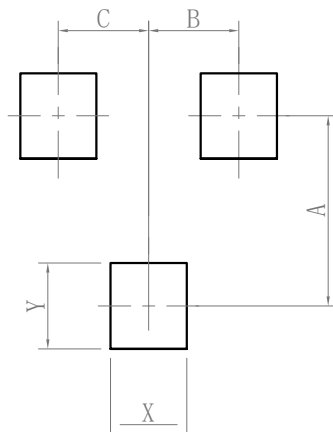


OUTLINE AND DIMENSIONS
SOT-23E


SOT23E			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.0	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	0.0
L1	0.45	0.55	0.5
HE	2.20	2.40	2.0
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

