P-Channel Power MOSFET

Primary characteristics			
Symbol	**Parameter**	**Value**	**Unit**
I_D	Continuous drain current (@T_C=25°C)	2.4	A
V_{DS}	Drain-source voltage	20	V
R_{DSON}	Drain-source ON resistance (@V_{GS}=2.5V)	<200	mΩ

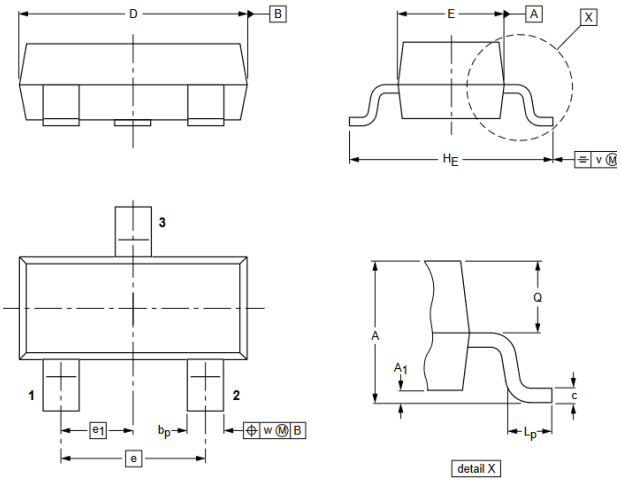
Features

- High power and current handling capability
- Lead free product is acquired
- Surface mount package

Application

- PWM applications
- Load switch
- Power management

Case dimensions



1 – Gate; 2 – Source; 3 – Drain

SOT-23 (TO-236AB)

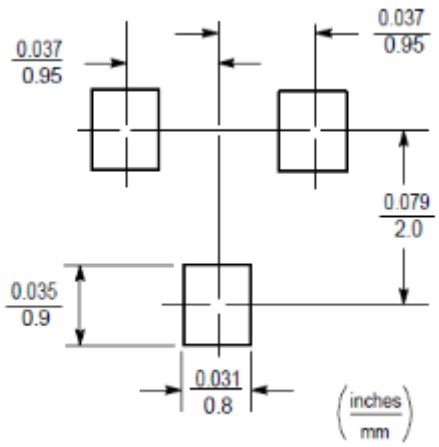
Unit	A	A_1max	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	1.0 ±0.1	0.1	0.43 ±0.05	0.12 ±0.03	2.9 ±0.1	1.3 ±0.1	1.9	0.95	2.3 ±0.2	0.3 ±0.15	0.5 ±0.05	0.2	0.1

Absolute maximum ratings (T_A = 25°C unless otherwise noted)			
Characteristic	**Symbol**	**Value**	**Unit**
Drain-source breakdown voltage	$V_{(BR)DS}$	20	V
Gate-source voltage	V_{GS}	±8.0	V
Continuous drain current	I_D	2.4	A
Pulse drain current tested [1)]	I_{DM}	10	A
Maximum power dissipation	P_D	900	mW
Maximum junction temperature	T_J	150	°C
Operating junction temperature range	T_{STG}	-55 ~ 150	°C

Electrical characteristics (T_J = 25°C)						
Characteristic	**Test condition**	**Symbol**	**Value**			**Unit**
			Min.	**Typ.**	**Max.**	
Drain-source breakdown voltage	V_{GS}=0V, I_D=250μA	$V_{(BR)DSS}$	20	-	-	V
Zero gate voltage drain current	V_{DS}=16V, V_{GS}=0V, T_A=25°C	I_{DSS}	-	-	1.0	μA
	V_{DS}=16V, V_{GS}=0V, T_A=55°C		-	-	10	
Gate to body leakage current	V_{GS}=±8.0V, V_{DS}=0V	I_{GSS}	-	-	±100	nA
Gate threshold voltage	V_{DS}=V_{GS}, I_D=250μA	$V_{GS(TH)}$	400	-	1500	mV
Diode forward voltage drop	I_S=0,75A, V_{GS}=0V	V_{SD}	-	-	1.5	V
Static drain-source ON-state resistance	V_{GS}=4.5V, I_D=2.4A	$R_{DS(ON)}$	-	-	140	mΩ
	V_{GS}=2.5V, I_D=2.0A		-	-	200	
Dynamic electrical characteristics (T_J = 25°C)						
Characteristic	**Test condition**	**Symbol**	**Value**			**Unit**
			Min.	**Typ.**	**Max.**	
Input capacitance	V_{DS}=10V V_{GS}=0V f=1.0MHz	C_{iss}	-	600	-	pF
Output capacitance		C_{oss}	-	120	-	
Switching characteristics						
Characteristic	**Test condition**	**Symbol**	**Value**			**Unit**
			Min.	**Typ.**	**Max.**	
Turn ON time	V_{DS}=10V I_D=2.4V R_{GEN}=6.0Ω	$t_{(on)}$	-	8.0	-	ns
Turn OFF time		$t_{(off)}$	-	60	-	
Notes: Pulse test; pulse width ≤300μs, duty cycle ≤2.0%						

Ordering information		
Part Number	**Package**	**Shipping Quantity**
AKS2301S	SOT-23	**3000 pcs / reel**

Suggested soldering pad layout



SOT-23

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