KJ03P35A

P-Channel Enhancement Mode MOSFET

1. Product Information

Features

- Advanced trench technology
- Surface-mounted package
- Excellent Switching Performance

Applications

- Brushless motor
- Load switch
- Uninterruptible power supply

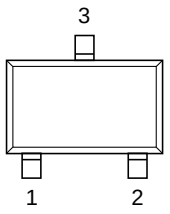
Quick reference

- $B_V \geqq$ -350 V
- $I_D \leqq$ -0.3 A
- $R_{DS(ON)} \leqq$ 22 Ω@V_{GS} = -10 V (Type: 13 Ω)

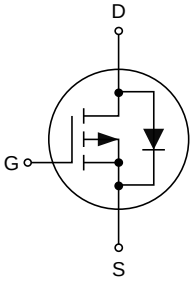
Pin Description

Pin	Description
1	Gate(G)
2	Drain(D)
3	Source(S)

Simplified Outline	Symbol



Top View
SOT23-3L



Package Marking and Ordering Information

Product Name	Package	Marking	Reel Size	Tape width	Quantity (pcs)
KJ03P35A	SOT23-3L	03P35	7"	8 mm	3000

2. Absolute Maximum Ratings (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Values	Unit
V_{DS}	Drain-Source Voltage	-350	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current, V_{GS}=-10 V, T_A=25℃ [1]	-0.3	A
	Continuous Drain Current, V_{GS}=-10 V, T_A=70℃[1]	-0.12	A
I_{DM}	Pulsed Drain Current [2]	-0.9	A
E_{AS}	Single Pulse Avalanche Energy [3]	45.5	mJ
P_D	Total Power Dissipation, T_A=25℃ [4]	0.2	W
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-55 to 150	℃
$R_{\theta JA}$	Thermal Resistance Junction to Ambient [1]	250	℃/W
$R_{\theta JC}$	Thermal Resistance Junction to Case [1]	125	℃/W

3. Electrical Characteristics (T_J=25℃, unless otherwise noted)

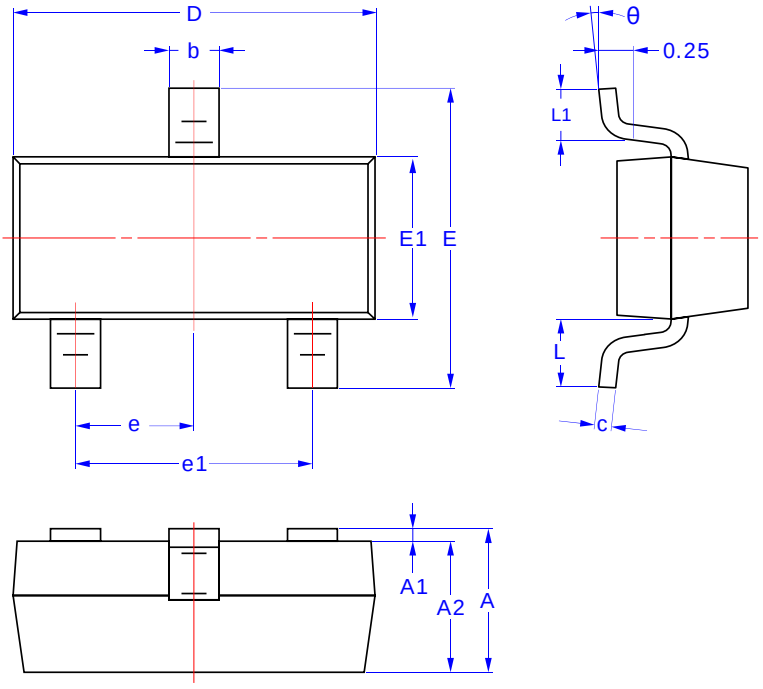
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DS}	Drain-Source Breakdown Voltage	V_{GS}=0 V, I_D=-250 μA	-350	-380	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-350 V, V_{GS}=0 V, T_J=25℃	-	-	1	μA
		V_{DS}=-350 V, V_{GS}=0 V, T_J=125℃	-	-	100	
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20 V, V_{GS}=0 V	-	-	±100	nA
$V_{GS(th)}$	Gate-Source Threshold Voltage	V_{DS}=V_{GS}, I_D=-250 μA	-1.0	-2.0	-3.0	V
$R_{DS(on)}$	Drain-Source on-Resistance [2]	V_{GS}=-10 V, I_D=-1 A	-	13	22	Ω
R_g	Gate Input Resistance	V_{DS}=0 V, V_{GS}=0 V, f=1 MHz, open drain	-	12	-	Ω
C_{iss}	Input Capacitance	V_{GS}=0 V, V_{DS}=-25 V, f=1.0 MHz [5]	-	44	-	pF
C_{oss}	Output Capacitance		-	6.95	-	
C_{rss}	Reverse Transfer Capacitance		-	0.84	-	
Q_g	Total Gate Charge	V_{GS}=-10 V, V_{DS}=-25 V, I_D=-0.3 A [5]	-	1.8	-	nC
Q_{gs}	Gate-Source Charge		-	-0.5	-	
Q_{gd}	Gate-Drain Charge		-	-0.2	-	
$t_{d(on)}$	Turn-on Delay Time	V_{DD}=-10 V, V_{GS}=-10 V, I_D=-0.3 A, R_g=25 Ω [5]	-	14	-	ns
t_r	Turn-on Rise Time		-	43	-	
$t_{d(off)}$	Turn-off Delay Time		-	39	-	
t_f	Turn-off Fall Time		-	38	-	

Notes:

1. The data tested by surface mounted on a 1 inch^2 FR-4 board with 2 OZ copper.
2. The data tested by pulsed, pulse width ≤ 300 μs, duty cycle ≤ 2%.
3. The power dissipation is limited by 150℃ junction temperature.
4. The data is theoretically the same as I_D and I_{DM}, in real applications, should be limited by total power dissipation.
5. Guaranteed by design, not subject to production testing

4. Package Mechanical Data

SOT23-3L Package



Symbol	Dimensions in Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	2.25	2.55
E1	1.20	1.40
e	0.95 TYP.	
e1	1.80	2.00
L	0.30	0.50
L1	0.55 REF.	
θ	0°	8°