KJ2318A

N-Channel Enhancement Mode MOSFET

1. Product Information

Features

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

Applications

- PWM applications
- Load switch
- Power management
- Halogen-free

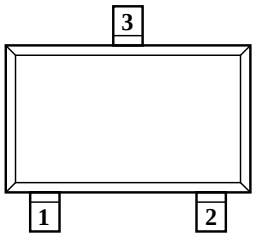
Quick reference

- $B_V \geqq 20V$
- $I_D \leqq 6.0A$
- $R_{DS(ON)} \leqq 13m\Omega$ @ $V_{GS} = 4.5V$ （Type:10 mΩ）
- $R_{DS(ON)} \leqq 18m\Omega$ @ $V_{GS} = 2.5V$ （Type:13 mΩ）

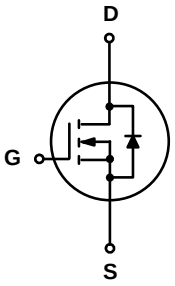
Pin Description

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

Simplified Outline	Symbol



Top View
SOT23-3L



Package Marking and Ordering Information

Product Name	Package	Marking	Reel Size	Tape width	Quantity
KJ2318A	SOT23-3L	2318 YWWXXX　YWWXXX: Date Code			3000

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

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±12	
Continuous Drain Current	t=5s	I_D	6	A
Pulsed Drain Current		I_{DM}	24	
Continuous Source-Drain Diode Current		I_S	1.64	
Maximum Power Dissipation	t=5s	P_D	1.25	W
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$		℃/W
Junction Temperature		T_J	150	℃
Storage Temperature		T_{stg}	-50 ~+150	

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Gate-source leakage	I_{GSS}	V_{DS} =0V, V_{GS} =±10V			±100	nA
Zero gate voltage drain current	I_{DSS}	V_{DS} =20V, V_{GS} =0V			1.0	μA
Gate-source threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.45	0.7	1.0	V
Drain-source on-state resistance[a]	$R_{DS\ (on)}$	V_{GS} =4.5V, I_D =6.0A		0.010	0.0130	Ω
		V_{GS} =2.5V, I_D =4.7A		0.013	0.0180	
Forward tranconductance[a]	g_{fS}	V_{DS} =10V, I_D =6.0A		6		S
Dynamic[b]						
Input capacitance	C_{iss}	V_{DS} =10V,V_{GS} =0V,f =1MHz		565		pF
Output capacitance	C_{oss}			125		
Reverse transfer capacitance	C_{rss}			85		
Gate resistance	R_g	f =1MHz	0.5		4.8	Ω
Turn-on delay Time	$t_{d(on)}$	V_{GEN}=5V,V_{DD}=10V, I_D =4A,R_G=1Ω, R_L=2.2Ω		8	16	ns
Rise time	t_r			15	30	
Turn-off Delay time	$t_{d(off)}$			33	66	
Fall yime	t_f			13	26	
Drain-source body diode characteristics						
Forward diode voltage	V_{SD}	V_{GS} =0V,I_S=4A		0.75	1.2	V

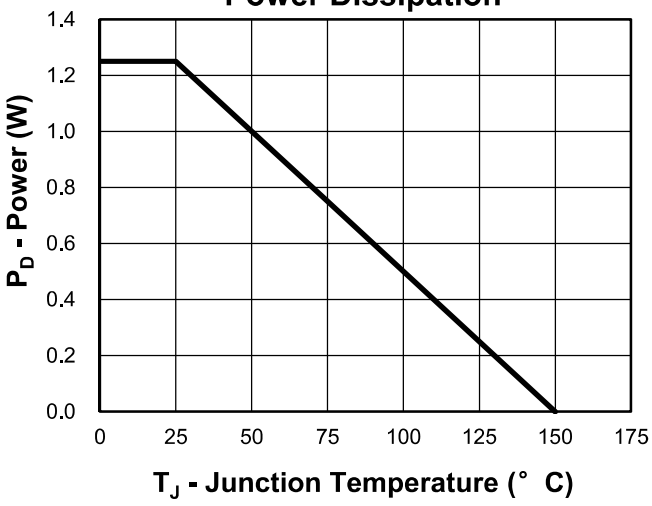
Notes :

a. Pulse Test : pulse width ≤300μs, duty cycle ≤2%.

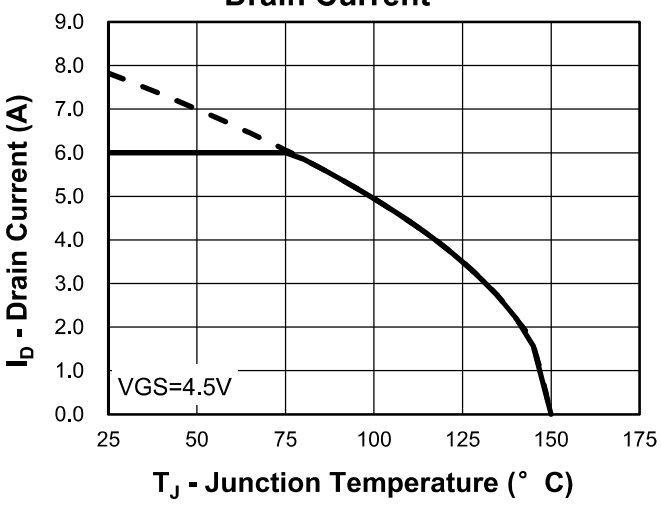
b. These parameters have no way to verify.

4.Typical Characteristics

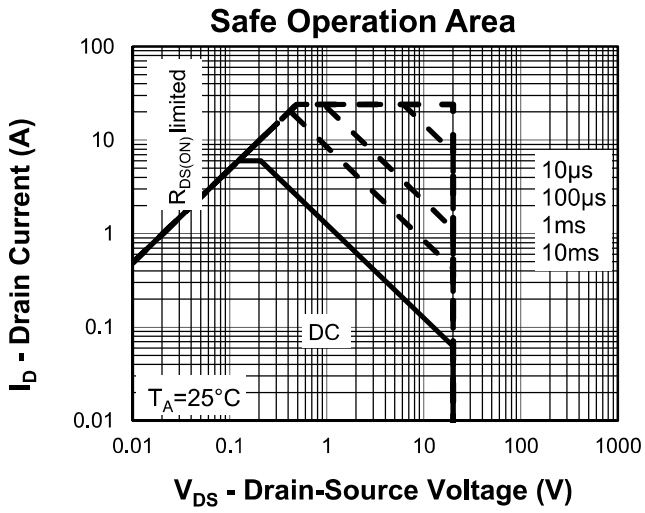
Power Dissipation



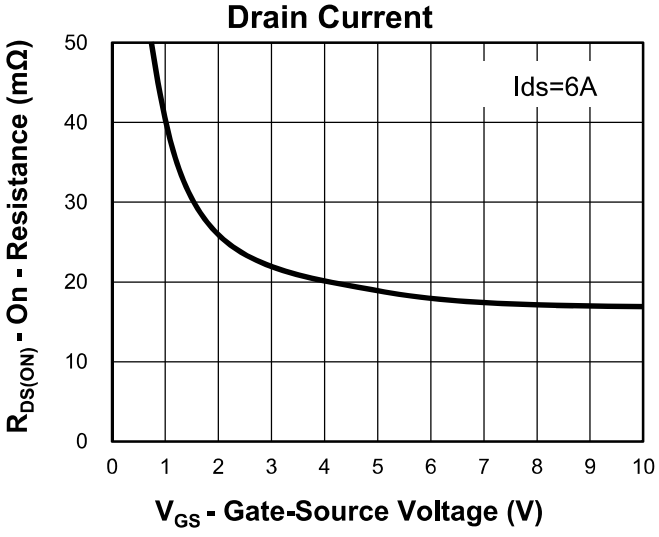
Drain Current



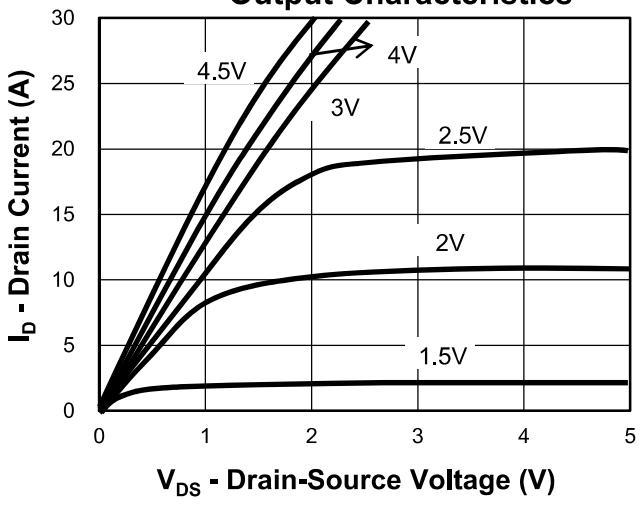
Safe Operation Area



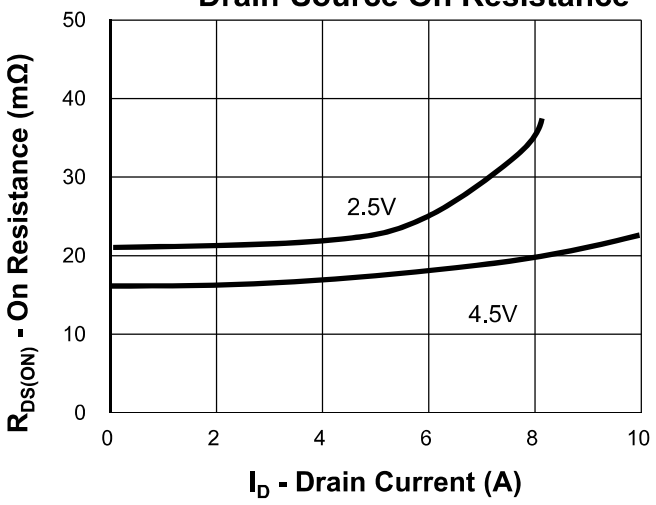
Drain Current



Output Characteristics

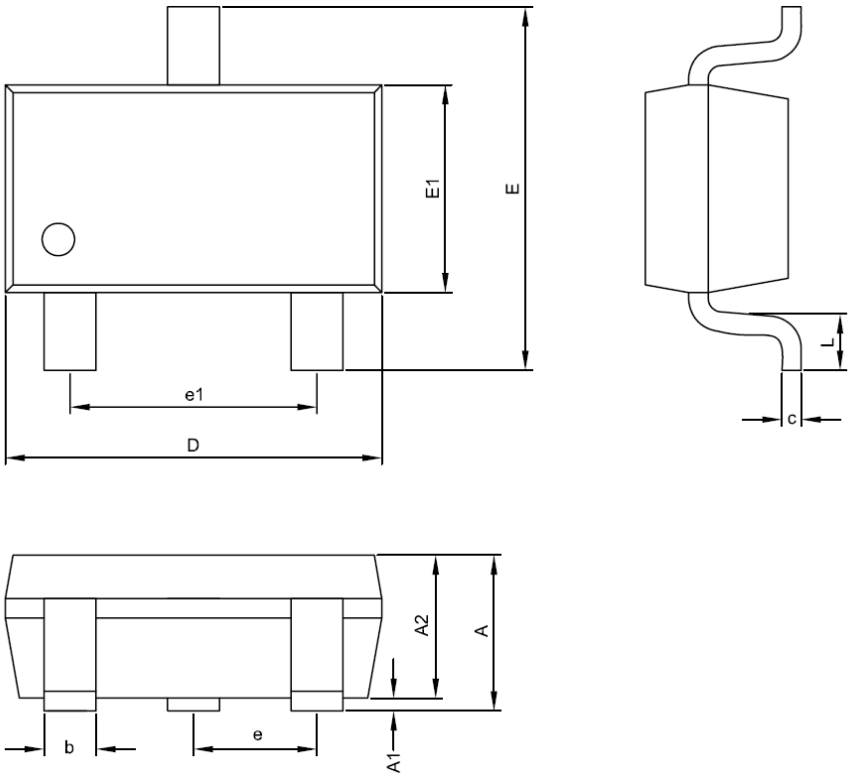


Drain-Source On Resistance



5.Package Mechanical Data

SOT23-3L



Symbol	Dimensions In Millimeters	
	MIN.	MAX.
A	1.00	1.45
A1	0.00	0.15
A2	1.00	1.30
D	2.70	3.10
E	2.60	3.00
E1	1.50	1.70
c	0.08	0.25
b	0.30	0.50
e	0.95 BSC	
e1	1.90 BSC	
L	0.30	0.60