

AK N-Channel TrenchPower MOSFET

Features

- N-channel
- $V_{DS} = 40V, I_D = 80A$
 $R_{DS(ON)} < 6.0m\Omega @ V_{GS} = 10V$
- Pb-free lead plating; RoHS compliant

Application

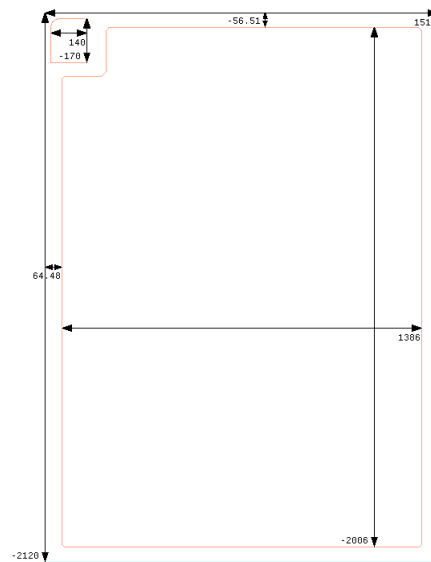
- Load Switch
- PWM Application
- Power management

40V N-Ch Power MOSFET

Parameter	Value	Unit	
V_{DS}	40	V	
$R_{DS(on),typ}$	$V_{GS} = 10V$	4.5	$m\Omega$
$R_{DS(on),typ}$	$V_{GS} = 4.5V$	6.5	$m\Omega$
I_{D_MAX}	80	A	

Physical Characteristics:

Wafer Size (inch)	8
Chip Size with scribe line (mm)	1.575x2.180
Wafer Thickness (mil)	6
Top Metal	AlCu
Top Metal Thickness (μm)	4
Back Metal	Ti/Ni/Ag
Scribe Line (μm)	60
Gate Wire recommended	42um Cu
Source Wires recommended	$\Phi 12mil AL*2$
Gross Die	8211
Source Pad Dimensions(μm)	1386*2006
Gate Pad Dimensions(μm)	140*170



PAD G: 140 X170 S: 1386 X 2006

Electrical Characteristics at T_j=25°C (unless otherwise specified under TO-252 package)

Parameter	Symbol	Test Condition	Value			Unit
			Min.	Typ.	Max.	
Drain to Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	40	44		V
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =250μA	1.1	1.5	2.4	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{GS} =0V, V _{DS} =40V, T _j =25°C	-	-	1	μA
		V _{GS} =0V, V _{DS} =40V, T _j =100°C		-	100	
Gate to Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
Drain to Source on Resistance	R _{DS(on)}	V _{GS} =10V, I _D =20A	-	4.5	6.0	mΩ
		V _{GS} =4.5V, I _D =15A	-	6.5	10.5	
Gate Resistance	R _G	V _{GS} =0V, V _{DS} =0V, f=1MHz	-	1.4	-	Ω