

## AK N-Channel TrenchPower MOSFET

### Features

- N-channel
- $V_{DS} = 40V, I_D = 72A$   
 $R_{DS(ON)} < 7.5m\Omega @ V_{GS} = 10V$
- Pb-free lead plating; RoHS compliant

### Application

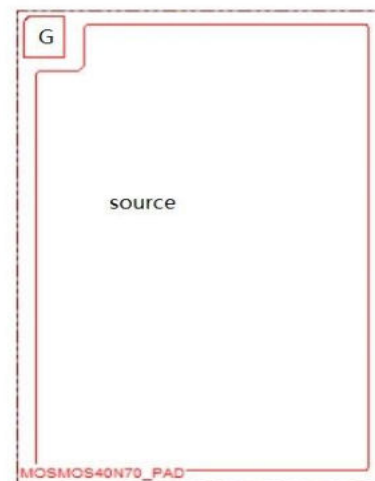
- Synchronous Rectification
- PWM Application
- Power management

### Physical Characteristics:

Wafer Size (inch)	8
Chip Size with scribe (mm)	1.375x1.980
Wafer Thickness (mil)	6
Top Metal	AlCu
Top Metal Thickness ( $\mu m$ )	4
Back Metal	Ti/Ni/Ag
Scribe Line ( $\mu m$ )	60
Gate Wire recommended	42um Cu
Source Wires recommended	$\Phi 12mil AL*2$
Gross Die	10463
Source Pad Dimensions( $\mu m$ )	1185*1805
Gate Pad Dimensions( $\mu m$ )	140*170

## 40V N-Ch Power MOSFET

Parameter		Value	Unit
$V_{DS}$		40	V
$R_{DS(on),typ}$	$V_{GS} = 10V$	5.3	$m\Omega$
$R_{DS(on),typ}$	$V_{GS} = 4.5V$	7.5	$m\Omega$
$I_{D\_MAX}$		72	A



G: 140X170 S: 1185X1805  
diesize: 1375X1980

**Electrical Characteristics at T<sub>j</sub>=25°C (unless otherwise specified under TO-252 package)**

Parameter	Symbol	Test Condition	Value			Unit
			Min.	Typ.	Max.	
Drain to Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	40	44		V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>GS</sub> =V <sub>DS</sub> , I <sub>D</sub> =250μA	1.1	1.5	2.4	V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =40V, T <sub>j</sub> =25°C	-	0.01	1	μA
		V <sub>GS</sub> =0V, V <sub>DS</sub> =40V, T <sub>j</sub> =100°C		-	100	
Gate to Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	-	10	±100	nA
Drain to Source on Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =20A	-	5.3	7.5	mΩ
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =15A	-	7.5	11	
Gate Resistance	R <sub>G</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =0V, f=1MHz	-	1.8	-	Ω