

AK N-Channel Trench Power MOSFET

Features

- N-channel
- $V_{DS} = 30V, I_D = 45A$
 $R_{DS(ON)} < 18m\Omega @ V_{GS} = 10V$
- Pb-free lead plating; RoHS compliant

Application

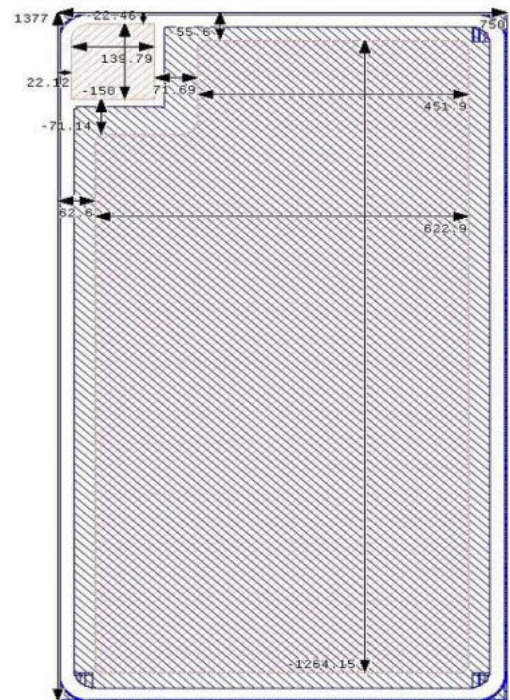
- Synchronous Rectification
- PWM Application
- Power management

Physical Characteristics:

Wafer Size (inch)	8
Chip Size with scribe (mm)	0.810*1.437
Wafer Thickness (mil)	6
Top Metal	AlCu
Top Metal Thickness (μm)	4
Back Metal	Ti/Ni/Ag
Scribe Line (μm)	60
Gate Wire recommended	1*42um Cu
Source Wires recommended	$\Phi 10mil AL*2$
Gross Die	24460
Source Pad Dimensions(μm)	622*1260
Gate Pad Dimensions(μm)	139*150

40V N-Ch Power MOSFET

Parameter	Value	Unit
V_{DS}	40	V
$R_{DS(on),typ}$ $V_{GS} = 10V$	12	$m\Omega$
$R_{DS(on),typ}$ $V_{GS} = 4.5V$	16	$m\Omega$
I_{D_MAX}	45	A



die size: 810 X 1437

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	2.2	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{GS} =0V, V _{DS} =40V, T _j =25°C	-	0.01	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 =5A	-	12	18	mΩ
		V _{GS} =4.5V, I _D =4A	-	16	26	
Gate Resistance	R _G	V _{GS} =0V, V _{DS} =0V, f=1MHz	-	3.5	-	Ω