

AK P-Channel Trench Power MOSFET

Features

- P-channel
- $V_{DS} = -30V, I_D = -24A$
 $R_{DS(ON)} < 28m\Omega @ V_{GS} = -10V$
- Pb-free lead plating; RoHS compliant

Application

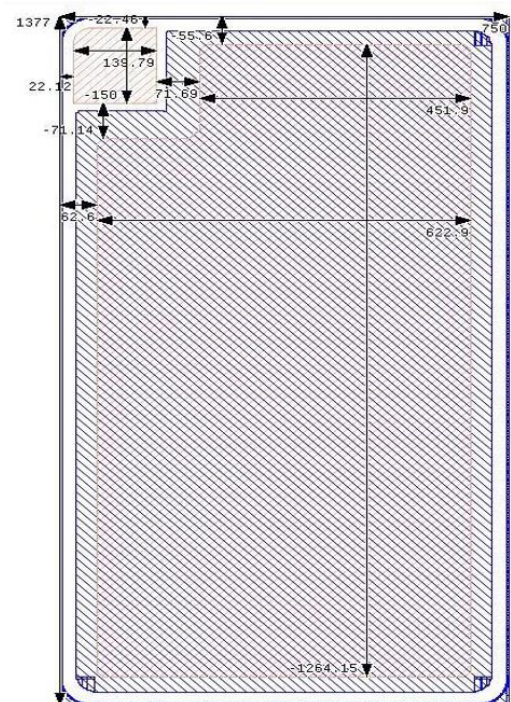
- Synchronous Rectification
- PWM Application
- Power management

30V P-Ch Power MOSFET

Parameter	Value	Unit
V_{DS}	-30	V
$R_{DS(on), typ}$ $V_{GS} = -10V$	18	m Ω
$R_{DS(on), typ}$ $V_{GS} = -4.5V$	24	m Ω
I_{D_MAX}	-24	A

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*42 μm Cu
Source Wires recommended	$\Phi 10$ mil Al*2
Gross Die	24460
Source Pad Dimensions(μm)	622*1260
Gate Pad Dimensions(μm)	139*150



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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	-30	-34		V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	-1.1	-1.5	-2.2	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0V, V_{DS}=-30V, T_j=25^\circ C$	-	0.01	1	μA
		$V_{GS}=0V, V_{DS}=-30V, T_j=100^\circ C$		-	100	
Gate to Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-		± 100	nA
Drain to Source on Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-5A$	-	18	28	m Ω
		$V_{GS}=-4.5V, I_D=-4A$	-	24	36	
Gate Resistance	R_G	$V_{GS}=0V, V_{DS}=0V, f=1MHz$	-	9	-	Ω