

AK N-Channel Trench Power MOSFET

Features

- N-channel
- $V_{DS} = 45V, I_D = 72A$
 $R_{DS(ON)} < 8.5m\Omega @ V_{GS} = 10V$
- Pb-free lead plating; RoHS compliant

Application

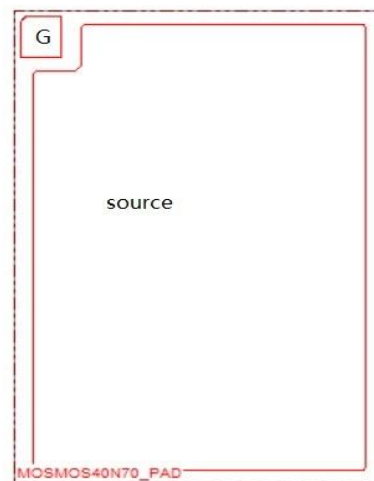
- Synchronous Rectification
- PWM Application
- Power management

45V N-Ch Power MOSFET

Parameter	Value	Unit	
V_{DS}	45	V	
$R_{DS(on),typ}$	$V_{GS} = 10V$	5.8	$m\Omega$
$R_{DS(on),typ}$	$V_{GS} = 4.5V$	8.0	$m\Omega$
I_{D_MAX}	72	A	

Physical Characteristics:

Wafer Size (inch)	8
Chip Size with scribe line (mm)	1.375x1.980
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	10463
Source Pad Dimensions(μm)	1185*1805
Gate Pad Dimensions(μm)	140*170



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

Electrical Characteristics at T_j=25°C (unless otherwise specified)

Parameter	Symbol	Test Condition	Value			Unit
			Min.	Typ.	Max.	
Drain to Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	45	48		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} =45V, T _j =25°C	-	0.01	1	μA
		V _{GS} =0V, V _{DS} =45V, T _j =100°C		-	100	
Gate to Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	10	±100	nA
Drain to Source on Resistance	R _{DS(on)}	V _{GS} =10V, I _D =20A	-	5.8	8.5	mΩ
		V _{GS} =4.5V, I _D =15A	-	8	12	
Gate Resistance	R _G	V _{GS} =0V, V _{DS} =0V, f=1MHz	-	1.8	-	Ω