

AK P-Channel Trench Power MOSFET

Features

- P-channel
- $V_{DS} = -40V, I_D = -40A$
 $R_{DS(ON)} < 20m\Omega @ V_{GS} = -10V$
- Pb-free lead plating; RoHS compliant

Application

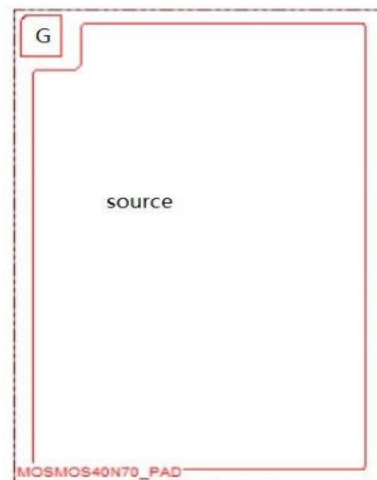
- Load Switch
- PWM Application
- Power management

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

40V P-Ch Power MOSFET

Parameter	Value	Unit	
V_{DS}	-40	V	
RDS(on),typ	$V_{GS} = -10V$	13.5	$m\Omega$
RDS(on),typ	$V_{GS} = -4.5V$	18.0	$m\Omega$
I_{D_MAX}	-40	A	



G: 140X170 S: 1185X1805
die size: 1375X1980

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	-46		V
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =-250μA	-1.1	-1.7	-2.5	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{GS} =0V, V _{DS} =-30V, T _j =25°C	-	-	-1	μA
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	-	13.5	20	mΩ
		V _{GS} =4.5V, I _D =-15A	-	18	31	
Gate Resistance	R _G	V _{GS} =0V, V _{DS} =0V, f=1MHz	-	6.5	-	Ω