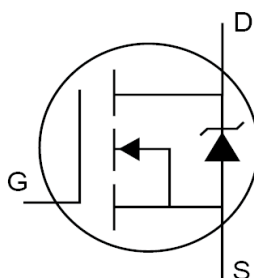


N-Channel Power MOSFET

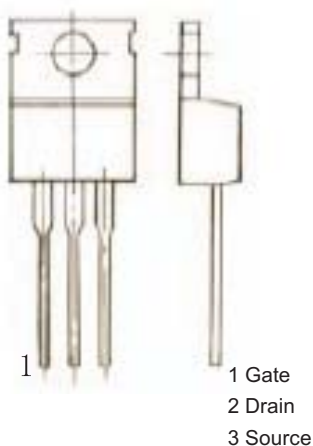
KUP75N08

■ Features

- $V_{DS}=75V, R_{DS(on)}=0.009\Omega @ V_{GS}=10V, I_D=30A$
- $V_{DS}=75V, R_{DS(on)}=0.011\Omega @ V_{GS}=4.5V, I_D=20A$



TO-220AB



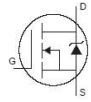
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain- Source Voltage	V_{DS}	75	V
Gate-to-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current @ $T_C=25^\circ\text{C}$	I_D	± 75	A
Continuous Drain Current @ $T_C=125^\circ\text{C}$	I_D	± 66	
Pulsed Drain Current*1	I_{DM}	± 240	
Power Dissipation $T_a = 25^\circ\text{C}$	P_D	250	W
Avalanche Current*1	I_{AR}	± 75	A
Repetitive Avalanche Energy*1	E_{AR}	280	mJ
Junction-to-Case	$R_{\theta JC}$	0.6	$^\circ\text{C/W}$
Junction-to-Ambient	$R_{\theta JA}$	62.5	
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 175	$^\circ\text{C}$

*1 Duty Cycle $\leq 1\%$

KUP75N08

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	VGS = 0V, ID = 250μA	75			V
Static Drain-to-Source On-Resistance	RDS(on)	VGS = 10V, ID = 30A			0.009	Ω
		VGS = 4.5V, ID = 20A			0.110	
Gate Threshold Voltage	VGS(th)	VDS = VGS, ID = 250μA	1		3	V
Forward Transconductance	gfs	VDS = 15V, ID = 30A	30			S
Drain-to-Source Leakage Current	IDSS	VDS = 60V, VGS = 0V			1	μA
		VDS = 60V, VGS = 0V, TJ = 125°C			50	
Gate-to-Source Forward Leakage	IGSS	VGS = 20V			100	nA
Gate-to-Source Reverse Leakage		VGS = -20V			-100	
Total Gate Charge	Qg	VDS = 30 V, VGS = 10 V, ID = 75 A		121	150	nC
Gate-to-Source Charge	Qgs			20		
Gate-to-Drain ("Miller") Charge	Qgd			25		
Turn-On Delay Time	td(on)	VDD = 30V, RL=0.47Ω, ID=75A,VGEN=10V		11	20	ns
Rise Time	tr			10	20	
Turn-Off Delay Time	td(off)			107	200	
Fall Time	tf			22	40	
Input Capacitance	Ciss	VGS= 0 V, VDS = 25 V, f = 1 MHz		5600		pF
Output Capacitance	Coss			820		
Reverse Transfer Capacitance	Crss			275		
Continuous Source Current (Body Diode)	IS	MOSFET symbol showing the integral reverse p-n junction diode. 			75	A
Pulsed Source Current (Body Diode) *2	ISM				240	
Diode Forward Voltage	VSD	TJ = 25°C, IF = 75A, VGS = 0V*1			1.3	V
Reverse Recovery Time	trr	TJ = 25°C, IF = 75A		80	120	ns
Reverse Recovery Charge	Qrr	di/dt = 100A/μs*1		0.32	0.54	uC

*1 Pulse width ≤ 300μs; duty cycle ≤ 2%.

*2 Repetitive rating; pulse width limited bymax