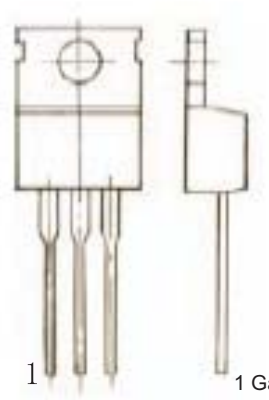
N-Channel Power MOSFET
KUP75N08

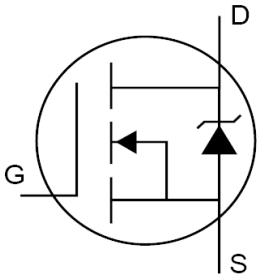
TO-220AB



1 Gate
2 Drain
3 Source

■ Features

- VDS=75V,RDS(on)=0.009Ω@VGS=10V,ID=30A
- VDS=75V,RDS(on)=0.011Ω@VGS=4.5V,ID=20A



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain- Source Voltage		VDS	75	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	@TC=25℃	ID	±75	A
Continuous Drain Current	@TC=125℃	ID	±66	
Pulsed Drain Current*1		IDM	±240	
Power Dissipation Ta = 25℃		PD	250	W
Avalanche Current*1		IAR	±75	A
Repetitive Avalanche Energy*1		EAR	280	mJ
Junction-to-Case		RθJC	0.6	℃/W
Junction-to-Ambient		RθJA	62.5	
Operating Junction and Storage Temperature Range		TJ,TSTG	-55 to + 175	℃

*1 Duty Cycle ≤ 1%

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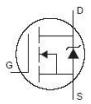
■ Electrical Characteristics Ta = 25℃

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℃			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℃, IF = 75A, VGS = 0V*1			1.3	V
Reverse Recovery Time	trr	TJ = 25℃, IF = 75A		80	120	ns
Reverse RecoveryCharge	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