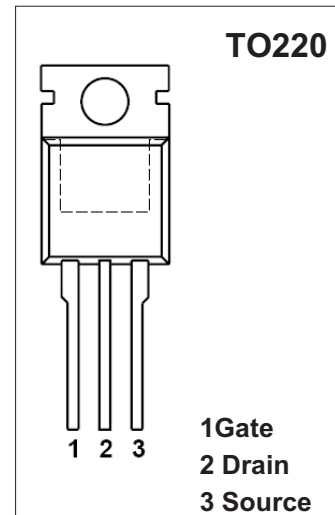
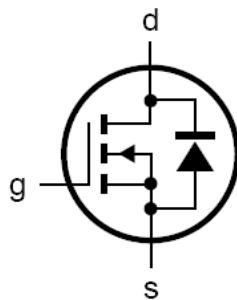


N-Channel Enhancement Mode Field Effect Transistor KHP45N03LT

■ Features

- Low on-state resistance
- Fast switching.



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 15	
Drain current (DC)	I_D	45	A
Power Dissipation	P_D	86	W
thermal resistance from junction to mounting base	$R_{th(j-mb)}$	1.75	K/W
thermal resistance from junction to ambient	$R_{th(j-a)}$	60	K/W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 175	$^\circ\text{C}$

KHP45N03LT

■ Electrical Characteristics T_j= 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	V _{GS} = 0 V, I _D = 0.25mA	30			V
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 1mA	1	1.5	2	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±5 V		10	100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0 V		0.05	10	μA
Drain-Source On-Resistance *	r _{DS(on)}	V _{GS} = 5 V, I _D = 25 A		20	24	mΩ
		V _{GS} = 10V, I _D = 25A		16	21	
		V _{DS} = 5V, I _D = 25 A; T _J =175°C			45	
Forward transconductance	g _{fs}	V _{DS} = 25 V; I _D = 25 A	8	16		S
Total Gate Charge	Q _{gt}	V _{DS} =24V, V _{GS} =5V, I _D =40A		23		nC
Gate-Source Charge	Q _{gs}			3		
Gate-Drain Charge	Q _{gd}			12		
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz		2000	2500	pF
Output Capacitance	C _{oss}			380	450	
Reverse Transfer Capacitance	C _{rss}			250	300	
Turn-On Delay Time	t _{d(on)}			30	45	
Rise Time	t _r	V _{DD} =15V, I _D =25A, V _{GS} = 5V, R _{GEN} =5Ω		80	130	ns
Turn-Off Delay Time	t _{d(off)}			95	135	
Fall-Time	t _f			40	55	
Continuous Source Current (Diode Conduction)	I _S				45	A
peak source (diode forward) current	I _{SM}	T _{mb} = 25°C; pulsed; t _p ≤ 10 μs			180	A
Diode Forward Voltage	V _{SD}	I _S = 25A, V _{GS} = 0 V		0.95	1.2	V

*Pulse test: PW ≤ 300 μs duty cycle ≤ 2%..