



MK8205A

Dual N-Channel 20-V(D-S) MOSFET

V(BR)DSS	RDS(on)MAX	ID
20 V	28mΩ@4.5V	6A
	32mΩ@2.5V	

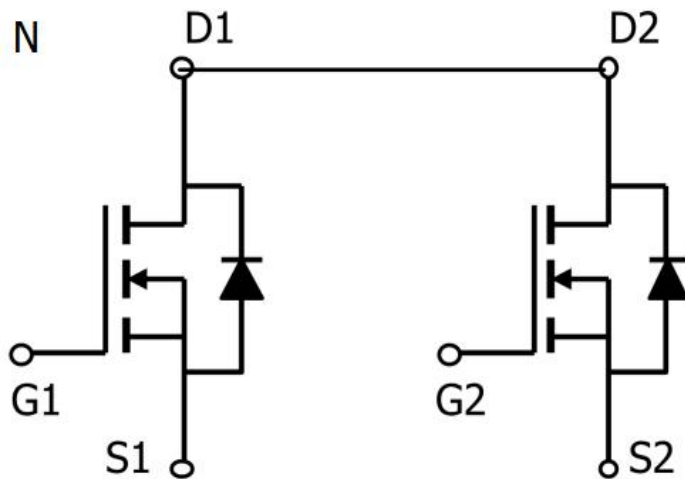
FEATURE:

※ TrenchFET Power MOSFET

MARKING:

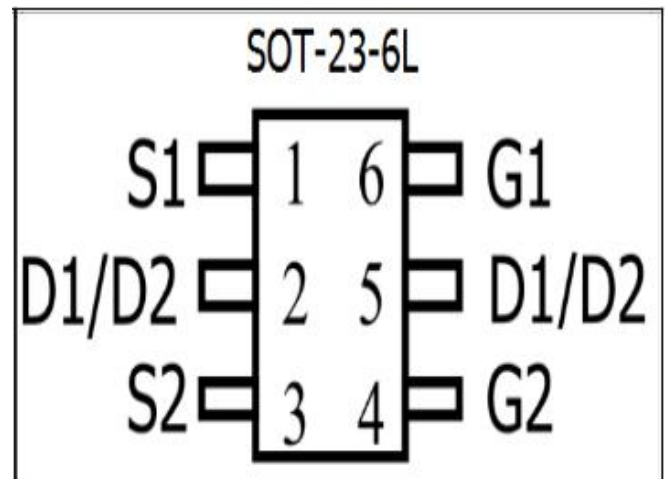
8205A

Equivalent Circuit :



General Description :

The MK8205A uses advanced technology to provide fast switching, low on-resistance and cost-effectiveness. This device is suitable for all commercial-industrial surface mount applications.



Maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	VDS	20	V
Gate-Source Voltage	VGS	±12	
Continuous Drain Current	ID	6	A
Pulsed Diode Current	IDM	20	
Continuous Source-Drain Current(Diode Conduction)	IS	1.7	
Power Dissipation	PD	1.3	W
Thermal Resistance from Junction to Ambient (t≤10s)	RθJA	125	°C/W
Operating Junction	TJ	150	°C
Storage Temperature	TSTG	-55~+150	°C



MOSFET ELECTRICAL CHARACTERISTICS

Static Electrical Characteristics (Ta = 25 °C Unless Otherwise Noted)

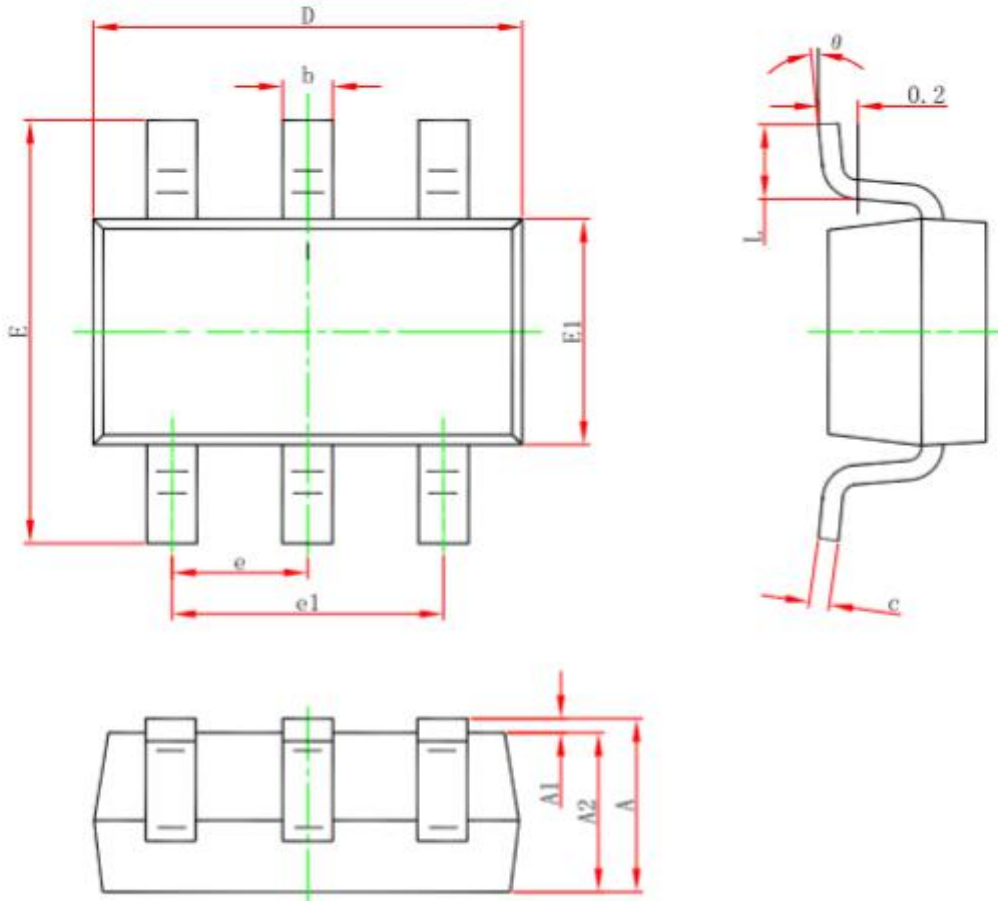
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	V(BR)DSS	VGS = 0V, ID = 250μA	20			V
Gate-source threshold voltage	VGS(th)	VDS = VGS, ID = 250μA	0.5		1.1	V
Gate-body leakage current	IGSS	VDS = 0V, VGS = ±12V			±100	nA
Zero gate voltage drain current	IDSS	VDS = 18V, VGS = 0V			1	μA
Static Drain-Source On-Resistance	RDS(on)	VGS = 4.5V, ID = 5A		19	28	mΩ
		VGS = 2.5V, ID = 4A		23.5	32	mΩ
Forward transconductance	gfs	VDS = 5V, ID = 6 A		7		S
Diode forward voltage	VSD	IS= 1A, VGS=0V		0.8	1.3	V
Maximum Body-Diode Continuous Current	IS				1.7	A
Dynamic						
Input capacitance	Ciss	VDS = 10V, VGS = 0V, f=1MHz		520		pF
Output capacitance	Coss			160		pF
Reverse transfer capacitance	Crss			80		pF
Total gate charge	Qg	VDS = 10V, VGS = 4.5V, ID = 6A		12		nC
Gate-source charge	Qgs			2.5		nC
Gate-drain charge	Qgd			3.5		nC
Gate resistance	Rg	f=1MHz		3.5	5.3	Ω
Switching						
Turn-on delay time	td(on)	VDS= 10V RL= 3Ω, ID =6A, VGS= 4.5V, Rg=3Ω		30		ns
Rise time	tr			70		ns
Turn-off delay time	td(off)			40		ns
Fall time	tf			65		ns
Body Diode Reverse Recovery Time	Trr	IF= 6A, dI/dt=100A/μs		20		ns
Body Diode Reverse Recovery Charge	Qrr	IF= 6A, dI/dt=100A/μs		8		nC

Note :

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t < 10 sec.
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.



SOT-23-6L PACKAGE OUTLINE DIMENSIONS:



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°



Typical Electrical Thermal Characteristics:

