8205

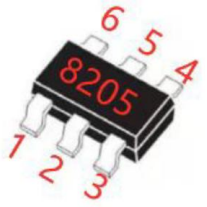
20V N-CHANNEL MOSFET

◆ Features：

- ✧ Fast switching speed
  开关速度快
- ✧ High input impedance and low level drive
  高输入阻抗和低电平驱动
- ✧ Improved dv/dt capability，high ruggedness
  提高 dv/dt 能力，高耐用性

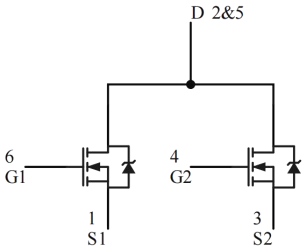
RoHS COMPLIANT

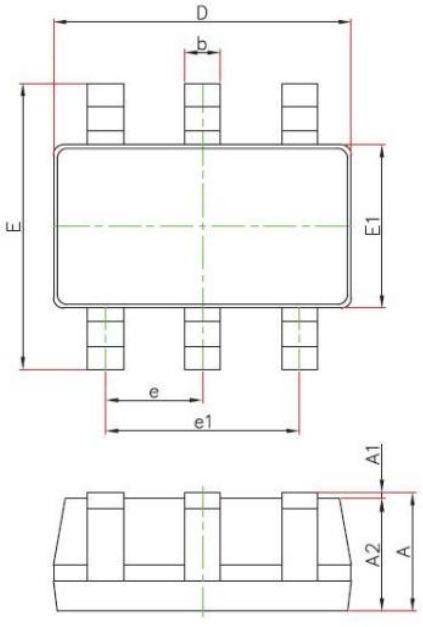
SOT-23-6

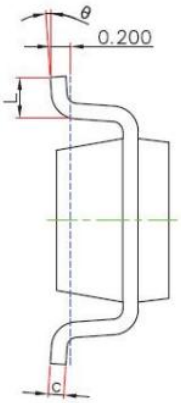


◆ Applications

- ✧ igh efficiency switch mode power supplies
  高效率开关电源
- ✧ Power factor correction
  功率因数校正
- ✧ Electronic lamp ballast
  电子整流器







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
K	0°	8°	0°	8°

◆ Absolute Maximum Ratings (Tc=25°C)

Symbol	Parameters	Ratings	Unit
V_{DSS}	Drain-Source Voltage 漏源电压	**20**	V
V_{GS}	Gate-Source Voltage-Continuous 栅源电压	**±12**	V
I_D	Drain Current-Continuous（Note 2） 漏极持续电流	**5**	A
I_{DM}	Drain Current-Single Plused（Note 1） 漏极单次脉冲电流	**20**	A
P_D	Power Dissipation （Note 2） 功率损耗	**1.5**	W
T_j	Max.Operating junction temperature 最大结温	**150**	℃

◆ Electrical characteristics (Tc=25°C unless otherwise noted)

Symbol	Parameters	Min	Typ	Max	Units	Conditions
Static Characteristics						
B_{VDSS}	Drain-Source Breakdown VoltageCurrent （Note 1） 漏极击穿电压	**20**	--	--	V	I_D=250μA， V_{GS}=0V，T_J=25°C
$V_{GS(th)}$	Gate Threshold Voltage 栅极开启电压	**0.40**	**0.62**	**1.00**	V	V_{DS}=V_{GS}，I_D=250μA
$R_{DS(on)}$	Drain-Source On-Resistance 漏源导通电阻	--	**14.5**	**20**	mΩ	V_{GS}=4.5V，I_D=1A
I_{GSS}	Gate-Body Leakage Current 栅极漏电流	--	--	**±100**	nA	V_{GS}=±20V，V_{DS}=0
I_{DSS}	Zero Gate Voltage Drain Current 零栅极电压漏极电流	--	--	**1**	μA	V_{DS}=30V，V_{GS}=0
gfs	Forward Transconductance 正向跨导	--	**5**	--	S	V_{DS}=5V，I_D=2A

Switching Characteristics						
$T_{d(on)}$	Turn-On Delay Time 开启延迟时间	--	**3.5**	--	ns	V_{DS}=10V，I_D=5A，R_G=2.7Ω,V_{GS}=5V（Note 2）
T_r	Rise Time 上升时间	--	**2.5**	--	ns	
$T_{d(off)}$	Turn-Off Delay Time 关闭延迟时间	--	**20**	--	ns	
T_f	Fall Time 下降时间	--	**7.5**	--	ns	
Q_g	Total Gate Charge 栅极总电荷	--	**8.2**	--	nC	V_{DS}=10V V_{GS}=5V I_D=5A（Note 2）
Q_{gs}	Gate-Source Charge 栅源极电荷	--	**1.0**	--	nC	
Q_{gd}	Gate-Drain Charge 栅漏极电荷	--	**1.5**	--	nC	
Dynamic Characteristics						
C_{iss}	Input Capacitance 输入电容	--	**350**	--	pF	V_{DS}=20V，V_{GS}=0，f=1MHz
C_{oss}	Output Capacitance 输出电容	--	**75**	-	pF	
C_{rss}	Reverse Transfer Capacitance 反向传输电容	--	**75**	--	pF	
I_S	Continuous Drain-Source Diode Forward Current（Note 2） 二极管导通正向持续电流	--	--	**5.0**	A	
V_{SD}	Diode Forward On-Voltage 二极管正向导通电压	--	--	**1.0**	V	I_S=1A，V_{GS}=0
$R_{th(j-c)}$	Thermal Resistance, Junction to Case 结到外壳的热阻	--	--	**83.3**	°C/W	

Note 1: Repetitive Rating : Pulse width limited by maximum junction temperature

Note 2: Pulse test: PW <= 300us , duty cycle <= 2%.

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