OSPF30N03T-OSEN

LOW Voltage N-Channel MOSFET

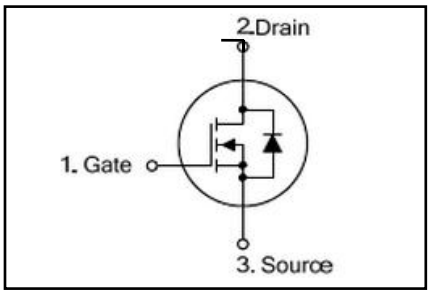
◆ Features:

- ✧ Fast switching speed
  开关速度快
- ✧ Low gate charge
  低门充电
- ✧ High power and current handing capability
  高功率和电流处理能力
- ✧ ROHS compliant
  符合 ROHS 标准

RoHS COMPLIANT

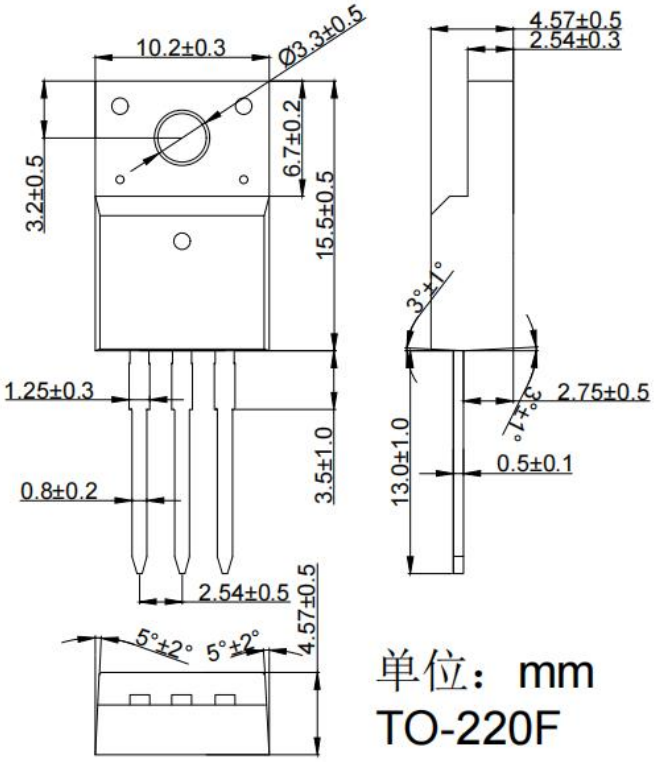
TO-220F





◆ Applications

- ✧ DC to DC converters
  直流到直流转换
- ✧ Synchronous Rectification
  同步整流



单位：mm

TO-220F

◆ Absolute Maximum Ratings (Tc=25°C)

Symbol	Parameters	Ratings	Unit
V_{DSS}	Drain-Source Voltage 漏源电压	**30**	V
V_{GS}	Gate-Source Voltage-Continuous 栅源电压	**±20**	V
I_D	Drain Current-Continuous（Note 2） 漏极持续电流	**30**	A
I_{DM}	Drain Current-Single Plused（Note 1） 漏极单次脉冲电流	**120**	A
P_D	Power Dissipation （Note 2） 功率损耗	**50**	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 Voltage Current （Note 1） 漏极击穿电压	**30**	--	--	V	I_D=250μA，V_{GS}=0V
$V_{GS(th)}$	Gate Threshold Voltage 栅极开启电压	**1.0**	--	**2.5**	V	V_{DS}=V_{GS}，I_D=250μA
$R_{DS(on)}$	Drain-Source On-Resistance 漏源导通电阻	--	**10.5**	**12.0**	mΩ	V_{GS}=10V，I_D=20A
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 Trans conductance 正向跨导	--	**10**	--	S	V_{DS}=5V，I_D=10A

Switching Characteristics						
$T_{d(on)}$	Turn-On Delay Time 开启延迟时间	--	**7.2**	--	ns	V_{GS}=4.5V, V_{DS}=25V,I_D=15A， R_G=1Ω
T_r	Rise Time 上升时间	--	**23**	--	ns	
$T_{d(off)}$	Turn-Off Delay Time 关闭延迟时间	--	**23.5**	--	ns	
T_f	Fall Time 下降时间	--	**10.5**	--	ns	
Q_g	Total Gate Charge 栅极总电荷	--	**17**	--	nC	V_{DS}=20，V_{GS}=4.5V， I_D=20A
Q_{gs}	Gate-Source Charge 栅源极电荷	--	**2.0**	--	nC	
Q_{gd}	Gate-Drain Charge 栅漏极电荷	--	**7.5**	--	nC	
Dynamic Characteristics						
C_{iss}	Input Capacitance 输入电容	--	**1100**	--	pF	V_{DS}=20V，V_{GS}=0， f=1MHz
C_{oss}	Output Capacitance 输出电容	--	**270**	--	pF	
C_{rss}	Reverse Transfer Capacitance 反向传输电容	--	**95**	--	pF	
I_S	Continuous Drain-Source Diode Forward Current（Note 2） 二极管导通正向持续电流	--	--	**30**	A	
V_{SD}	Diode Forward On-Voltage 二极管正向导通电压	--	--	**1.3**	V	I_S=30A，V_{GS}=0
$R_{th(j-c)}$	Thermal Resistance, Junction to Case 结到外壳的热阻	--	--	**2.5**	°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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