

650V super-junction Power MOSFET

◆ Features:

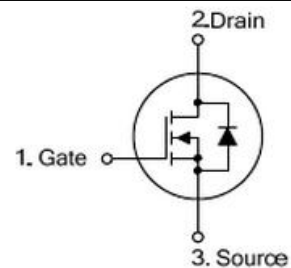
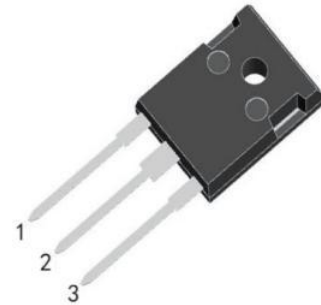
- ✧ Very Low FOM RDS(on)
低内阻
- ✧ %100 avalanche tested
%100 雪崩能量测试
- ✧ RoHS compliant
RoHS 认证
- ✧ Improved dv/dt capability, high ruggedness
提高 dv/dt 能力, 高耐用性

◆ Applications

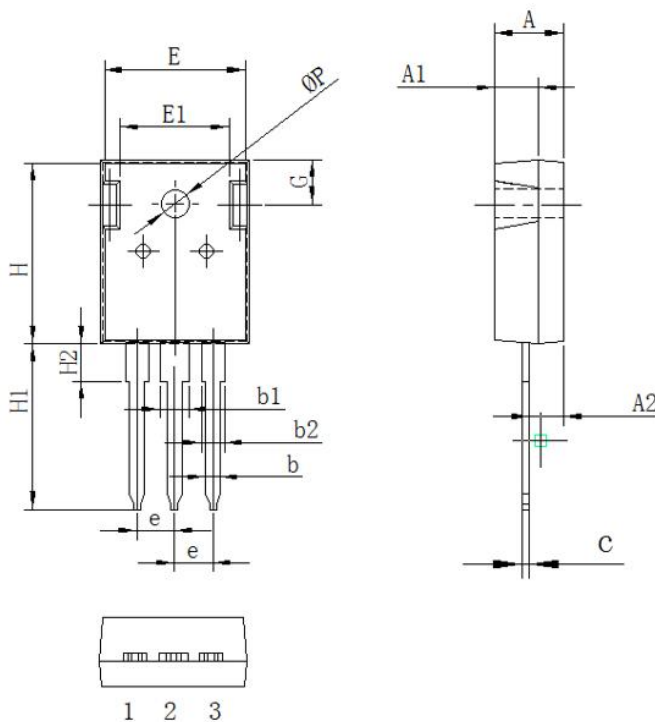
- ✧ High efficiency switch mode power supplies
高效率开关电源
- ✧ Power factor correction
功率因数校正
- ✧ Electronic lamp ballast
电子整流器



TO-247H



基本尺寸



Symbol	单位 mm		
	Min	Nom	Max
A	4.8	5.00	5.20
A1	3.3	3.5	3.7
A2	2.20	2.40	2.60
b	1.00	1.2	1.40
b1	2.90	3.10	3.30
b2	1.90	2.10	2.30
c	0.50	0.60	0.70
e	5.25	5.45	5.65
E	15.2	15.7	16.2
E1	10.2	10.7	11.2
H	20.8	21	21.2
H1	19.5	20.0	20.5
H2	4.00	4.20	4.40
G	5.60	5.80	600
ΦP	3.30	3.50	3.70

650V super-junction Power MOSFET
◆ Absolute Maximum Ratings (Tc=25°C)

Symbol	Parameters	Ratings	Unit
V _{DSS}	Drain-Source Voltage 漏源电压	650	V
V _{GS}	Gate-Source Voltage-Continuous 栅源电压	±30	V
I _D	Drain Current-Continuous (Note 2) 漏极持续电流	41	A
I _{DM}	Drain Current-Single Plused (Note 1) 漏极单次脉冲电流	164	A
P _D	Power Dissipation (Note 2) 功率损耗	200	W
T _j	Max.Operating junction temperature 最大结温	150	°C

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

Symbo l	Parameters	Min	Typ	Max	Units	Conditions
Static Characteristics						
B _{VDSS}	Drain-Source Breakdown VoltageCurrent (Note 1) 漏极击穿电压	650	--	--	V	I _D =250μA, V _{GS} =0V, T _J =25°C
V _{GS(th)}	Gate Threshold Voltage 栅极开启电压	3.0	--	5.0	V	V _{DS} =V _{GS} , I _D =250μA
R _{DS(on)}	Drain-Source On-Resistance 漏源导通电阻	--	72	83	mΩ	V _{GS} =10V, I _D =10A
I _{GSS}	Gate-Body Leakage Current 栅极漏电流	--	--	±100	nA	V _{GS} =±30V, V _{DS} =0
I _{DSS}	Zero Gate Voltage Drain Current 零栅极电压漏极电流	--	--	11	μA	V _{DS} =650V, V _{GS} =0
g _{fs}	Forward Transconductance 正向跨导	--	25	--	S	V _{DS} =40V, I _D =25A

Switching Characteristics						
T _{d (on)}	Turn-On Delay Time 开启延迟时间	--	20	--	ns	V _{DS} =400V, I _D =15A, R _G =2Ω（Note 2）
T _r	Rise Time 上升时间	--	18	--	ns	
T _{d (off)}	Turn-Off Delay Time 关闭延迟时间	--	35	--	ns	
T _f	Fall Time 下降时间	--	25	--	ns	
Q _g	Total Gate Charge 栅极总电荷	--	75	--	nC	V _{DS} =400V ， V _{GS} =10V, I _D =15A（Note 2）
Q _{gs}	Gate-Source Charge 栅源极电荷	--	23	--	nC	
Q _{gd}	Gate-Drain Charge 栅漏极电荷	--	45	--	nC	
Dynamic Characteristics						
C _{iss}	Input Capacitance 输入电容	--	2500	--	pF	V _{DS} =25V, V _{GS} =0, f=1MHz
C _{oss}	Output Capacitance 输出电容	--	90	--	pF	
C _{rss}	Reverse Transfer Capacitance 反向传输电容	--	3.5	--	pF	
I _S	Continuous Drain-Source Diode Forward Current（Note 2） 二极管导通正向持续电流	--	--	41	A	
V _{SD}	Diode Forward On-Voltage 二极管正向导通电压	--	--	1.2	V	I _S =15A, V _{GS} =0
R _{th(j-c)}	Thermal Resistance, Junction to Case 结到外壳的热阻	--	--	0.625	°C/W	

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

Note 2: Pulse test: $PW \leq 300\mu s$, duty cycle $\leq 2\%$.