

-30V P-Channel Enhancement-Mode MOSFET

-30V P 沟道增强型 MOS 管

**VDS≤-30V**

**RDS(ON), Vgs@-10V, Ids@-8A ≤ 10m Ω**

**RDS(ON), Vgs@-4.5V, Ids@-6A ≤ 15mΩ**

## Features 特性

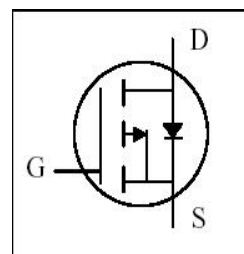
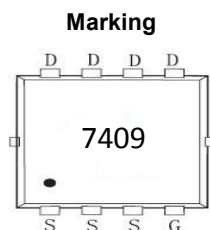
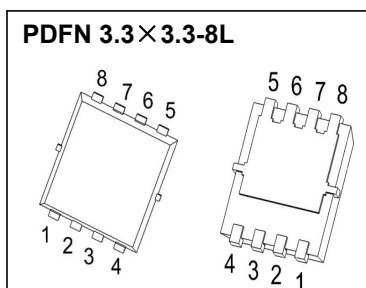
Advanced trench process technology 高级的加工技术

High Density Cell Design For Ultra Low On-Resistance 极低的导通电阻高密度的单元设计

High Power and Current handling capability 大功率高电流

## Package Dimensions

封装尺寸及外形图

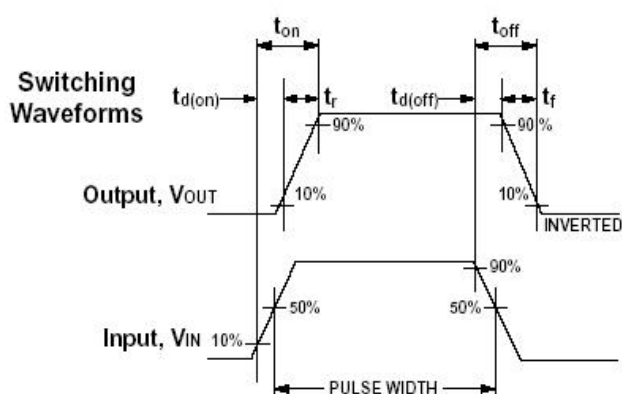
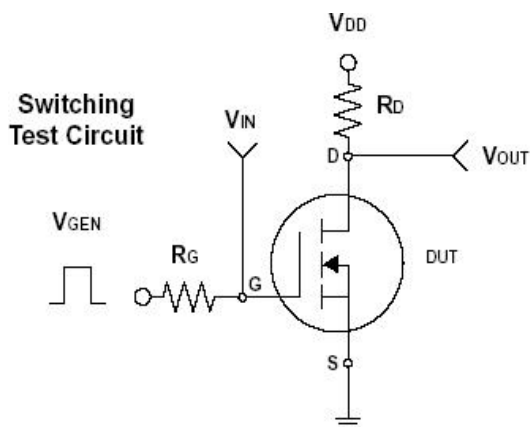


## Maximum Ratings and Thermal Characteristics (TA = 25 °C unless otherwise noted) 25 °C 极限参数和热特性

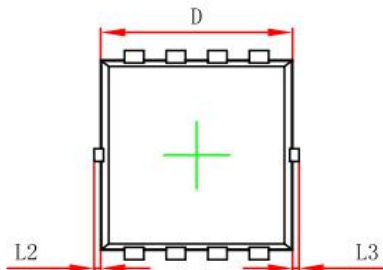
Parameter 极限参数	Symbol 符号	Limit 范围	Unit 单位
Drain-Source Voltage 漏源电压	V <sub>DS</sub>	-30	V
Gate-Source Voltage 栅源电压	V <sub>GS</sub>	±20	
Continuous Drain Current 连续漏极电流	I <sub>D</sub>	-30	A
Pulsed Drain Current 脉冲漏极电流	I <sub>DM</sub>	-100	
Maximum Power Dissipation 最大耗散功率	P <sub>D</sub>	TA = 25°C	W
		TA = 75°C	
Operating Junction and Storage Temperature Range 使用及储存温度	T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C
Junction-to-Ambient Thermal Resistance (PCB mounted) 结环热阻	R <sub>qJA</sub>	75	°C/W
Junction-to-Case Thermal Resistance 结壳热阻	R <sub>qJC</sub>	4.5	

ELECTRICAL CHARACTERISTICS 一般电气特性						
Parameter 参数	Symbol 符号	Test Condition 测试条件	Minimum 最小值	Typical 典型值	Maximum 最大值	Unit 单位
Static 静态参数						
Drain-Source Breakdown Voltage 漏源击穿电压	BV <sub>DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250uA	-30			V
Drain-Source On-State Resistance 漏源导通电阻	R <sub>DS(on)</sub>	V <sub>GS</sub> = -10V, I <sub>D</sub> = -8A		8.1	10	mΩ
Drain-Source On-State Resistance 漏源导通电阻	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> =-6A		12	15	
Gate Threshold Voltage 开启电压	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250uA	-1	-1.3	-3	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I <sub>DSS</sub>	V <sub>DS</sub> = -24V, V <sub>GS</sub> = 0V			-1	uA
Gate Body Leakage 漏极短路时截止栅电流	I <sub>GSS</sub>	V <sub>GS</sub> = ± 20V, V <sub>DS</sub> = 0V			±100	nA
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q <sub>g</sub>	V <sub>DS</sub> = -15V, I <sub>D</sub> = -1.5A V <sub>GS</sub> = 10V		82		nC
Gate-Source Charge 栅-源极电荷	Q <sub>gs</sub>			6.8		
Gate-Drain Charge 栅-漏极电荷	Q <sub>gd</sub>			9.6		
Turn-On Delay Time 导通延迟时间	t <sub>d(on)</sub>	V <sub>DD</sub> = -15V, R <sub>L</sub> =15Ω I <sub>D</sub> = -1A, V <sub>GEN</sub> = -10V R <sub>G</sub> =6Ω		11.7		ns
Turn-On Rise Time 导通上升时间	t <sub>r</sub>			14.4		
Turn-Off Delay Time 关断延迟时间	t <sub>d(off)</sub>			146		
Turn-Off Fall Time 关断下降时间	t <sub>f</sub>			36.6		
Input Capacitance 输入电容	C <sub>iss</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = 0V f =200KHz		4053		pF
Output Capacitance 输出电容	C <sub>oss</sub>			433		
Reverse Transfer Capacitance 反向传输电容	C <sub>rss</sub>			370		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I <sub>S</sub>				-2.5	A
Diode Forward Voltage 正向电压	V <sub>SD</sub>	I <sub>S</sub> = -2.1A, V <sub>GS</sub> = 0V			-1.2	V

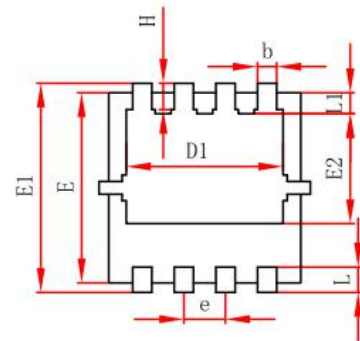
Note: Pulse test: pulse width ≤ 300us, duty cycle ≤ 2% 注意: 脉冲测试: 脉冲宽度 ≤ 300us 死区 ≤ 2%



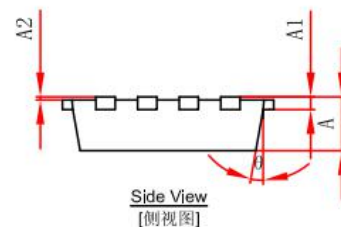
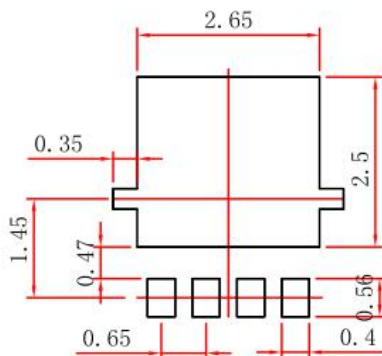
## PDFN 3.3\*3.3-8L Package Outline Dimensions



Top View  
[顶视图]



Bottom View  
[背视图]



Side View  
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.650	0.850	0.026	0.033
A1	0.152 REF.		0.006 REF.	
A2	0~0.05		0~0.002	
D	2.900	3.100	0.114	0.122
D1	2.300	2.600	0.091	0.102
E	2.900	3.100	0.114	0.122
E1	3.150	3.450	0.124	0.136
E2	1.535	1.935	0.060	0.076
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.315	0.515	0.012	0.020
θ	9°	13°	9°	13°