

100V N-Channel Enhancement-Mode Mosfet

100V N 沟道增强型 MOS 管

$V_{DS} \leq 100V$

$R_{DS(ON)}, V_{GS}@10V, I_{DS}@25A \leq 12m\Omega$

$R_{DS(ON)}, V_{GS}@4.5V, I_{DS}@25A \leq 15.5m\Omega$

Features 特性

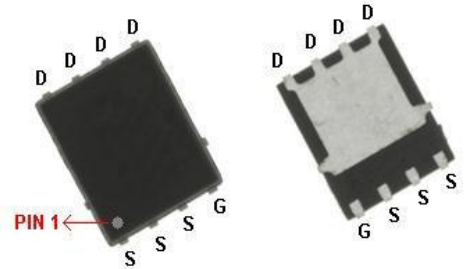
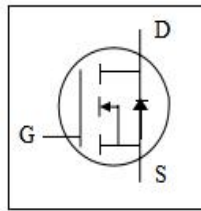
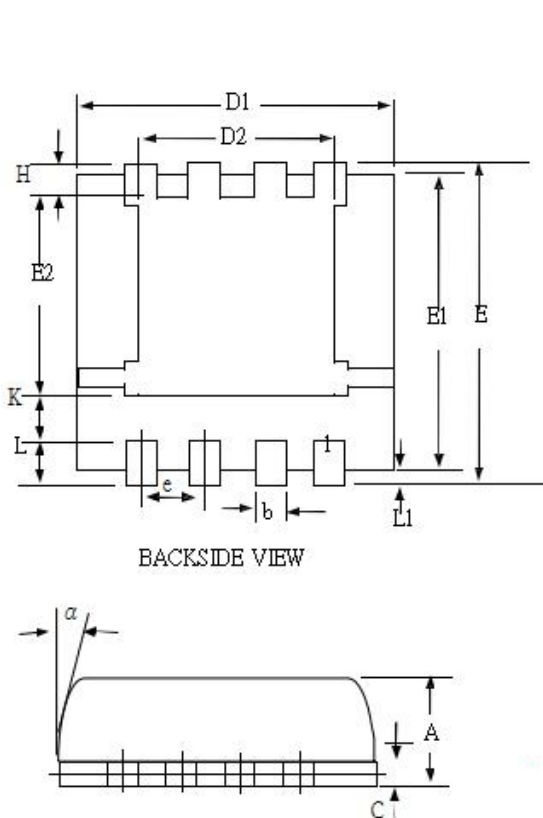
Advanced trench process technology 高级的加工技术

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

PDFN5*6

Package Dimensions

封装尺寸及外形图



SYMBOLS	Millimeters		
	MIN	NOM	MAX
A	0.9	1.1	1.3
b	0.33	0.41	0.51
c	0.15	-	-
D1	4.8	4.9	5.1
D2	-	-	4.4
E	5.8	6	6.2
E1(Ref.)	5.6	5.75	5.9
E2(Ref.)	3.3	3.55	3.8
e	1.27BSC		
H	-	-	0.9
K(Ref.)	0.7	-	-
L	0.35	0.55	0.75
L1	-	-	0.2
α	0°	-	12°

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_{DS}	100	V
Gate-Source Voltage 栅源电压	V_{GS}	±20	
Continuous Drain Current 连续漏极电流	I_D	34	A
Pulsed Drain Current 脉冲漏极电流	I_{DM}	100	
Maximum Power Dissipation 最大耗散功率	P_D	55	W
		36	
Operating Junction and Storage Temperature Range 使用及储存温度	T_J, T_{stg}	-55 to 150	°C
Junction-to-Ambient Thermal Resistance (PCB mounted) 结环热阻	$R_{\theta JA}$	50	°C/W
Junction-to-Case Thermal Resistance 结壳热阻	$R_{\theta JC}$	2.4	

*The device mounted on 1in2 FR4 board with 2 oz copper

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 _{DSS}	V _{GS} = 0V, I _D = 250uA	100			V
Drain-Source On-State Resistance 漏源导通电阻	R _{DS(on)}	V _{GS} = 10V, I _D = 25A		8.8	12	mΩ
Drain-Source On-State Resistance 漏源导通电阻	R _{DS(on)}	V _{GS} = 4.5V, I _D =25A		12.4	15.5	
Gate Threshold Voltage 开启电压	V _{GS(th)}	V _{DS} =V _{GS} , I _D = 250uA	1	1.4	3	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I _{DSS}	V _{DS} = 24V, V _{GS} = 0V			1	uA
Gate Body Leakage 漏极短路时截止栅电流	I _{GSS}	V _{GS} = ± 20V, V _{DS} = 0V			±100	nA
Forward Transconductance 正向跨导	g _{fs}	V _{DS} = 5V, I _D = 20A		45		S
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q _g	V _{DS} = 15V, V _{GS} = 4.5V, I _D = 17A		35		nC
Gate-Source Charge 栅-源极电荷	Q _{gs}			3		
Gate-Drain Charge 栅-漏极电荷	Q _{gd}			13		
Turn-On Delay Time 导通延迟时间	t _{d(on)}	V _{DD} = 15V, R _G =6Ω I _D = 12A, V _{GS} = 4.5V		13.8		ns
Turn-On Rise Time 导通上升时间	t _r			14.8		
Turn-Off Delay Time 关断延迟时间	t _{d(off)}			57.6		
Turn-Off Fall Time 关断下降时间	t _f			16.1		
Input Capacitance 输入电容	C _{iss}	V _{DS} = 8V, V _{GS} = 0V f = 1MHz		2618		pF
Output Capacitance 输出电容	C _{oss}			325		
Reverse Transfer Capacitance 反向传输电容	C _{rss}			21		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I _S				4	A
Diode Forward Voltage 正向电压	V _{SD}	I _S = 1A, V _{GS} = 0V			1.1	V

Note: Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$ 注意: 脉冲测试: 脉冲宽度 $\leq 300\mu s$ 死区 $\leq 2\%$

