

30V P-Channel Enhancement-Mode MOSFET 30V P 沟道增强型 MOS 管

VDS= -30V

RDS(ON), Vgs@-10V, Ids@-6.0A=25mΩ

RDS(ON), Vgs@-6.0V, Ids@-5.0A=30mΩ

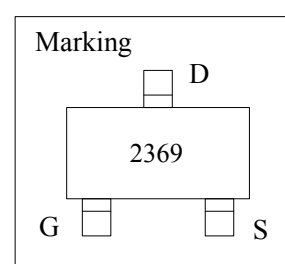
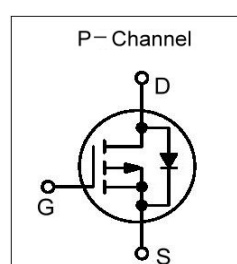
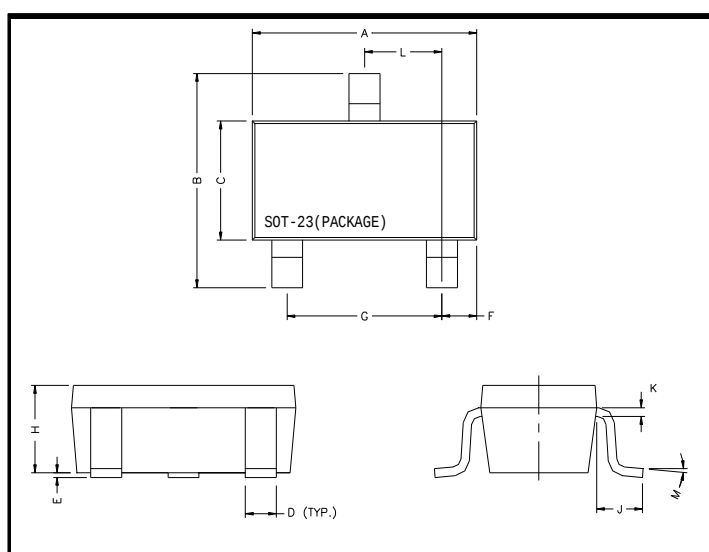
RDS(ON), Vgs@-4.5V, Ids@-3.0A=40mΩ

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

Package Dimensions 封装尺寸及外形图



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90	REF.
B	2.40	2.80	H	1.00	1.30
C	1.40	1.60	K	0.10	0.20
D	0.35	0.50	J	0.40	-
E	0	0.10	L	0.85	1.15
F	0.45	0.55	M	0°	10°

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

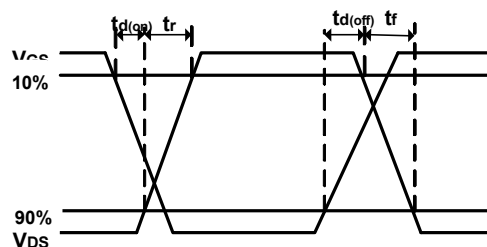
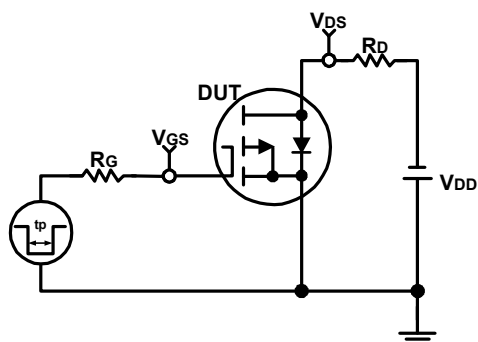
Parameter 极限参数		Symbol 符号	Limit 范围	Unit 单位
Drain-Source Voltage 漏源电压		V _{DS}	-30	V
Gate-Source Voltage 栅源电压		V _{GS}	± 20	
Continuous Drain Current 连续漏极电流		I _D	-8.0	A
Pulsed Drain Current 脉冲漏极电流		I _{DM}	-30	
Maximum Power Dissipation 最大耗散功率	TA = 25°C	P _D	1.2	W
	TA = 75°C		0.8	
Operating Junction 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 _{θJA}	100	°C/W

ELECTRICAL CHARACTERISTICS 一般电气特性

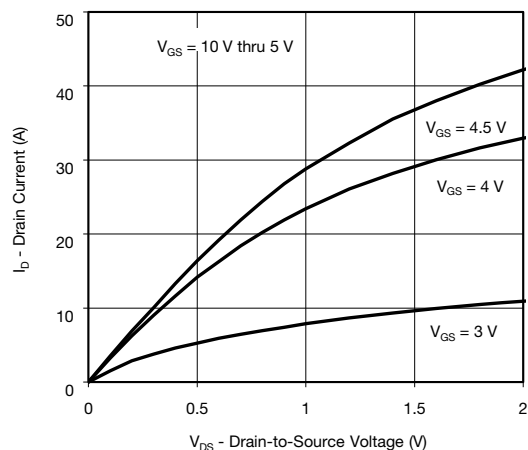
Parameter 参数	符号	Test Condition 测试条件	最小值	典型值	最大值	单位
Static 静态参数						
Drain-Source Breakdown Voltage 漏源击穿电压	BV _{DSS}	V _{GS} = 0V, I _D = 250uA	-30			V
Drain-Source On-State Resistance 漏源导通电阻	R _{DS(on)}	V _{GS} = -10.0 V, I _D = - 6.0A		20.0	25.0	mΩ
Drain-Source On-State Resistance 漏源导通电阻	R _{DS(on)}	V _{GS} = - 6.0 V, I _D = - 5.0A		26.0	30.0	
Drain-Source On-State Resistance 漏源导通电阻	R _{DS(on)}	V _{GS} = - 4.5 V, I _D = - 3.0A		31.0	40.0	
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} = -20V, 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} = -10V, I _D = - 6.0A		8.0		S
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q _g	V _{DS} = -15V, I _D = - 6.0A V _{GS} = -10.0V		25.6		nC
Gate-Source Charge 栅-源极电荷	Q _{gs}			2.4		
Gate-Drain Charge 栅-漏极电荷	Q _{gd}			5.1		
Turn-On Delay Time 导通延迟时间	t _{d(on)}	V _{DD} = -15V, R _L =10Ω I _D = -1A, V _{GEN} = -4.5V R _G = 6Ω		6.8		ns
Turn-On Rise Time 导通上升时间	t _r			12.2		
Turn-Off Delay Time 关断延迟时间	t _{d(off)}			64.1		
Turn-Off Fall Time 关断下降时间	t _f			13.1		
Input Capacitance 输入电容	C _{iss}	V _{DS} = -15V, V _{GS} = 0V f = 1.0 MHz		1469		pF
Output Capacitance 输出电容	C _{oss}			191		
Reverse Transfer Capacitance 反向传输电容	C _{rss}			145		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I _S				-2.1	A
Diode Forward Voltage 正向电压	V _{SD}	I _S = -1.7A, V _{GS} = 0V			-1.2	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 $\leq 2\%$

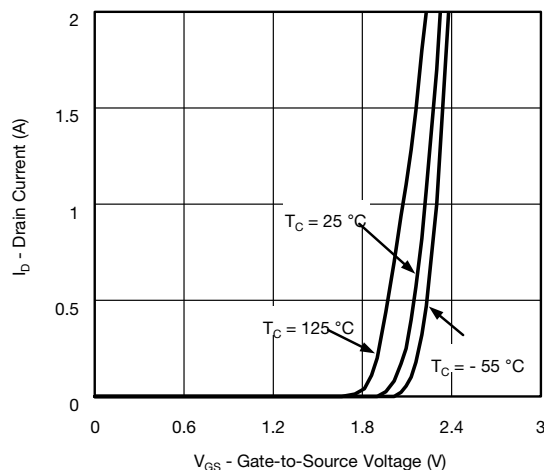
Switching Time Test Circuit and Waveforms



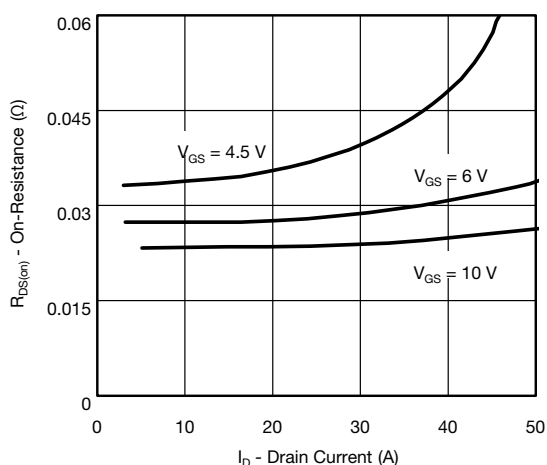
Typical Operating Characteristics 电气性能特征曲线



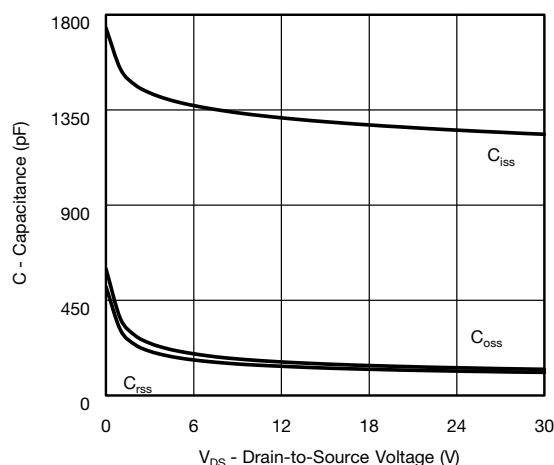
Output Characteristics



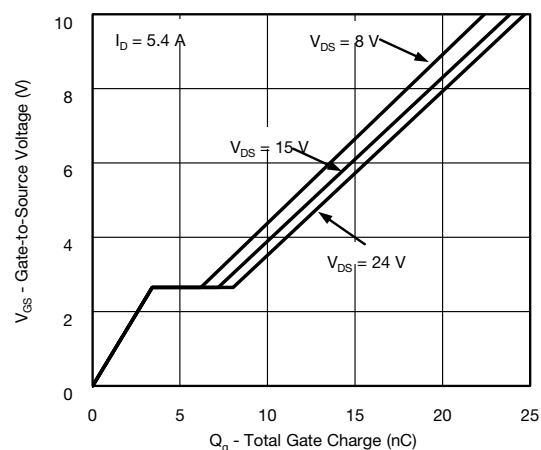
Transfer Characteristics



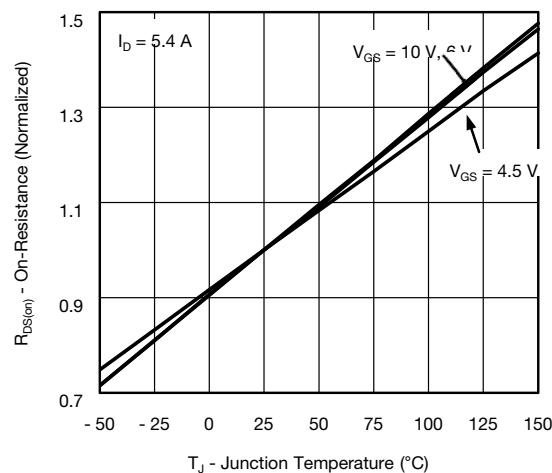
On-Resistance vs. Drain Current



Capacitance



Gate Charge



On-Resistance vs. Junction Temperature