

双 N 沟道 MOSFET

ELM51932A-S

<http://www.elm-tech.com>

■概要

ELM51932A-S 是 N 沟道低输入电容、低工作电压、低导通电阻的大电流 MOSFET，内藏有两个 MOSFET。

■特点

- $V_{ds}=30V$
- $I_d=1.8A$
- $R_{ds(on)} = 430m\Omega$ ($V_{gs}=4.5V$)
- $R_{ds(on)} = 580m\Omega$ ($V_{gs}=2.5V$)
- $R_{ds(on)} = 860m\Omega$ ($V_{gs}=1.8V$)

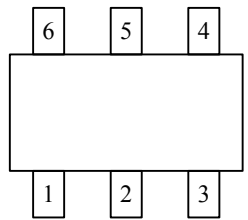
■绝对最大额定值

如没有特别注明时, $T_a=25^\circ C$

项目	记号	规格范围	单位
漏极 - 源极电压	V_{ds}	30	V
栅极 - 源极电压	V_{gs}	± 12	V
漏极电流 ($T_j=150^\circ C$)	I_d	$T_a=25^\circ C$ 1.8	A
		$T_a=70^\circ C$ 1.0	
漏极电流 (脉冲)	I_{dm}	6.0	A
容许功耗	P_d	$T_c=25^\circ C$ 0.3	W
		$T_c=70^\circ C$ 0.2	
动作结合部温度	T_j	- 55 ~ 150	$^\circ C$
保存温度范围	T_{stg}	- 55 ~ 150	$^\circ C$

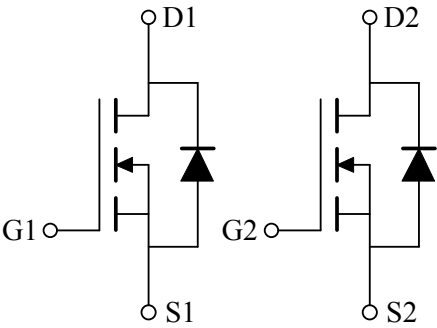
■引脚配置图

SC-70-6(俯视图)



引脚编号	引脚名称
1	SOURCE1
2	GATE1
3	DRAIN2
4	SOURCE2
5	GATE2
6	DRAIN1

■电路图



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■电特性

如没有特别注明时, Ta=25℃

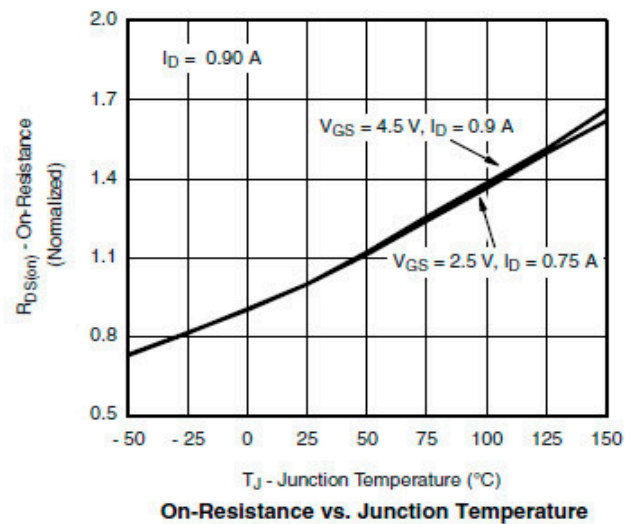
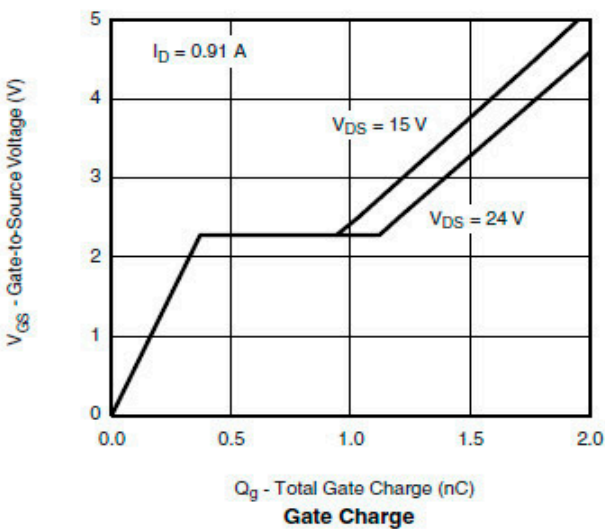
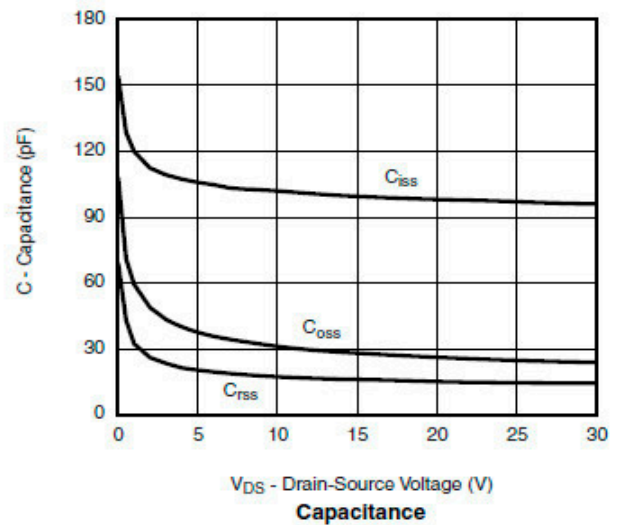
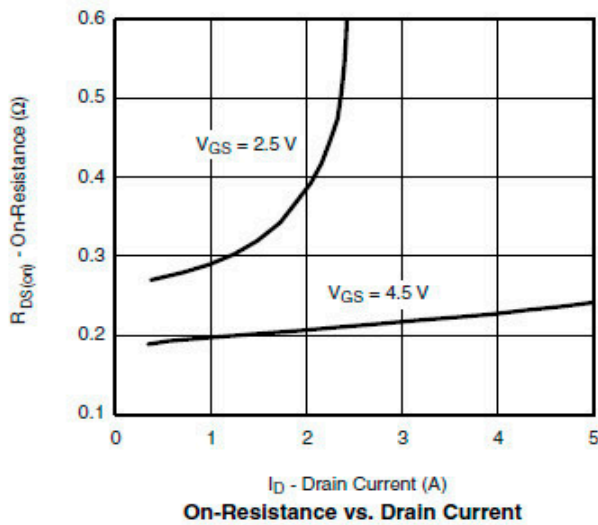
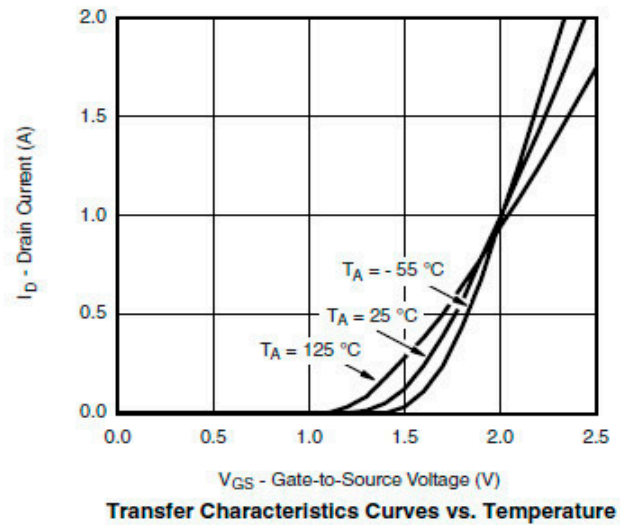
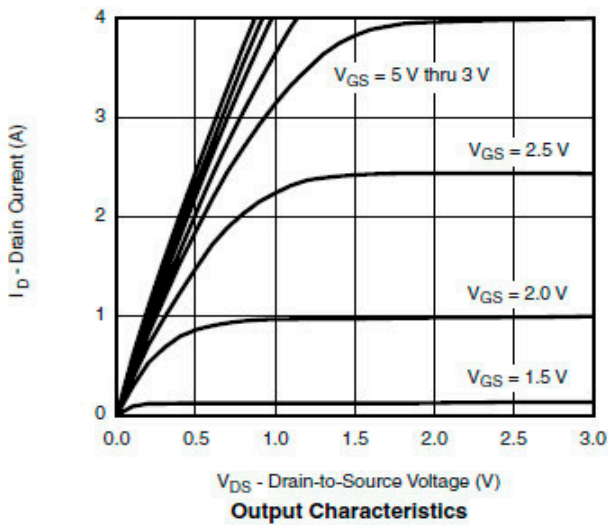
项目	记号	条件	最小值	典型值	最大值	单位
静态特性						
漏极 – 源极击穿电压	BVdss	Id=250μA, Vgs=0V	30			V
栅极接地时漏极电流	Idss	Vds=24V, Vgs=0V			1	μA
		Ta=85℃			5	
栅极漏电流	Igss	Vds=0V, Vgs= ± 12V			± 100	nA
栅极阈值电压	Vgs(th)	Vds=Vgs, Id=250 μA	0.5		1.0	V
导通时漏极电流	Id(on)	Vgs=4.5V, Vds≥5V	1.8			A
漏极 – 源极导通电阻	Rds(on)	Vgs=4.5V, Id=1.5A		380	430	mΩ
		Vgs=2.5V, Id=1.2A		480	580	
		Vgs=1.8V, Id=0.6A		700	860	
正向跨导	Gfs	Vds=10V, Id=1.0A		1		S
二极管正向压降	Vsd	Is=1.0A, Vgs=0V		0.65	1.20	V
寄生二极管最大连续电流	Is				1.0	A
动态特性						
输入电容	Ciss	Vgs=0V, Vds=15V, f=1MHz		85		pF
输出电容	Coss			25		pF
反馈电容	Crss			15		pF
开关特性						
总栅极电荷	Qg	Vgs=4.5V, Vds=15V, Id≡1.2A		1.4	1.8	nC
栅极 – 源极电荷	Qgs			0.3		nC
栅极 – 漏极电荷	Qgd			0.6		nC
导通延迟时间	td(on)	Vgs=4.5V, Vds=15V RL=20Ω, Id≡1.2A, Rgen=1.0Ω		15	25	ns
导通上升时间	tr			25	45	ns
关闭延迟时间	td(off)			15	25	ns
关闭下降时间	tf			10	20	ns

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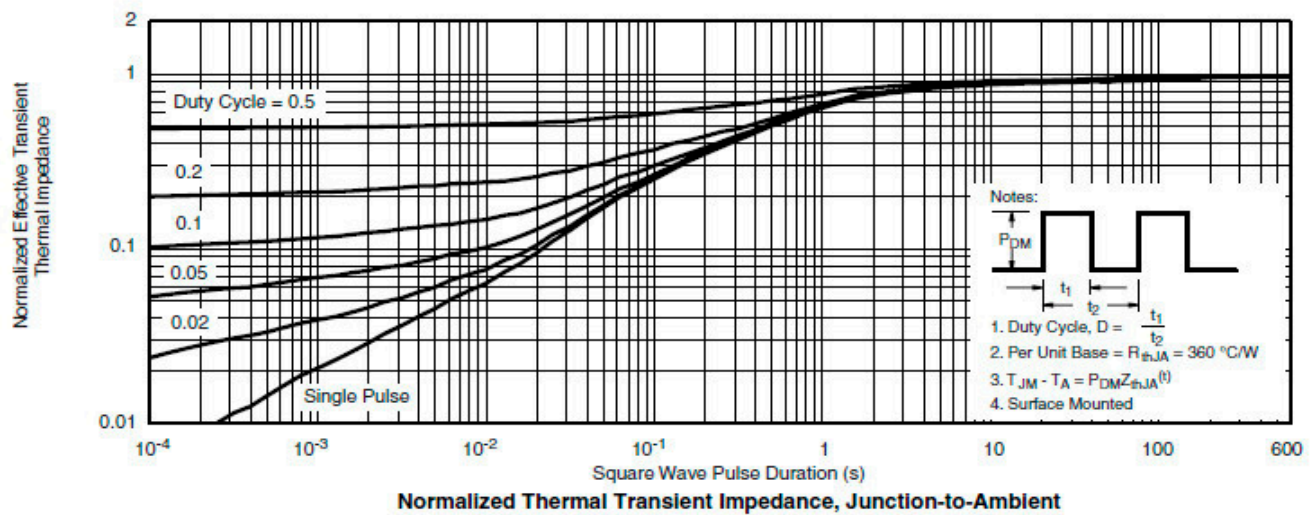
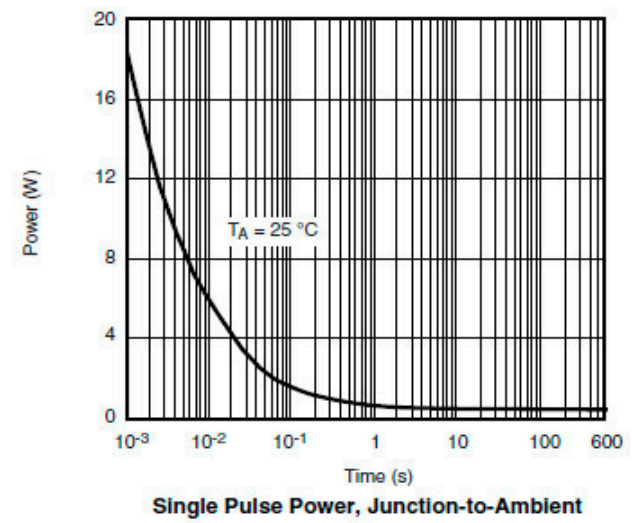
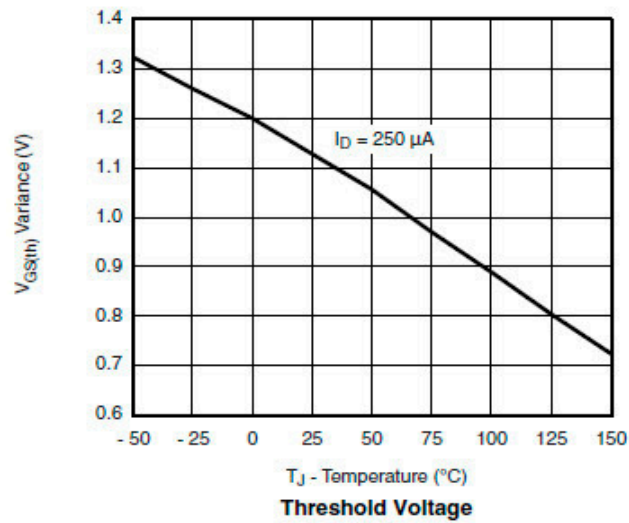
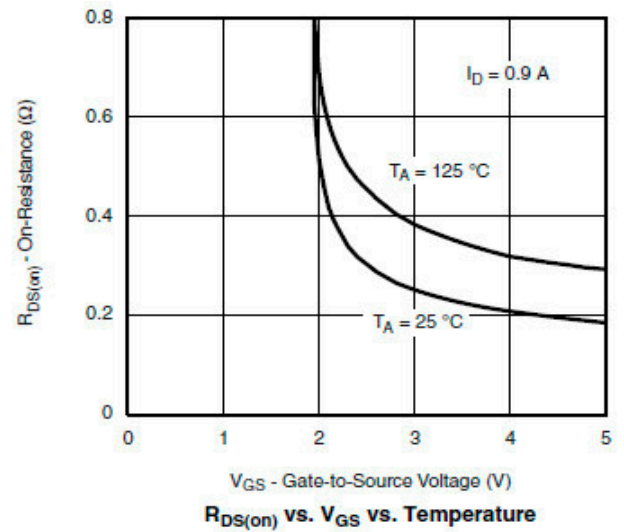
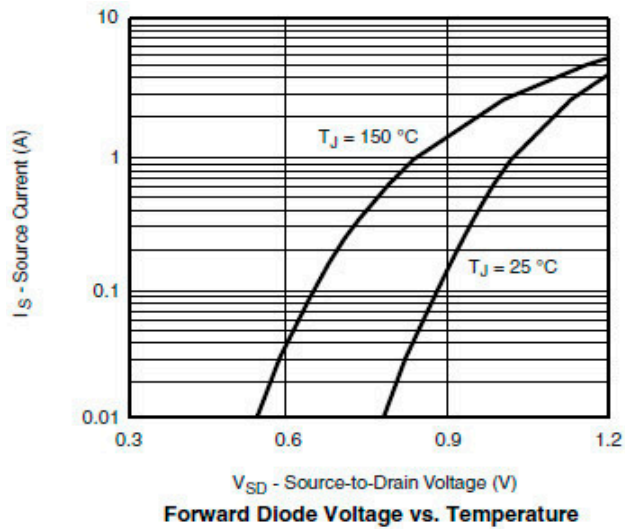
■ 标准特性和热特性曲线



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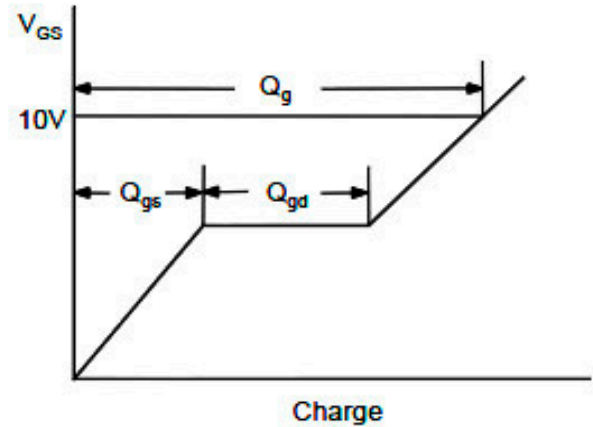
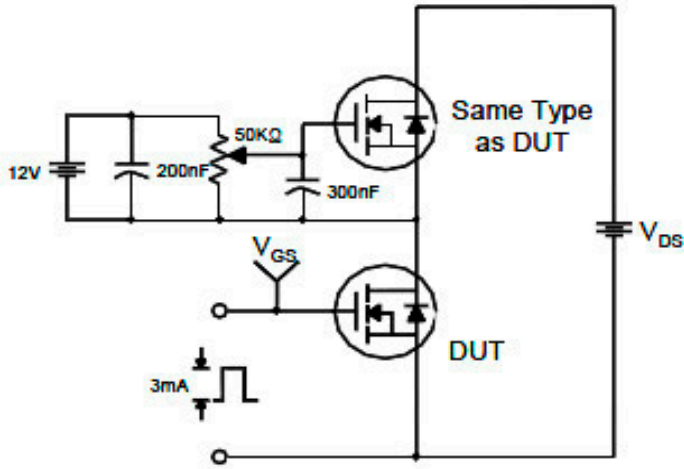
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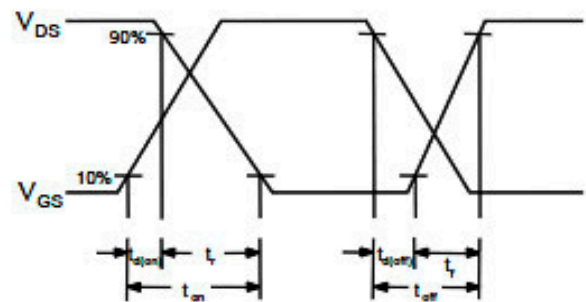
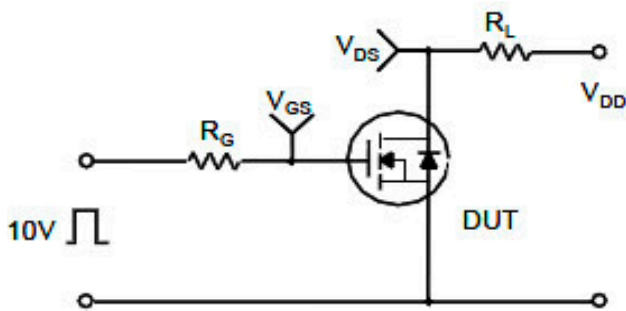
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■测试电路和波形

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