

单 P 沟道 MOSFET

ELM52325AA-S

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

■概要

ELM52325AA-S 是 P 沟道低输入电容, 低工作电压, 低导通电阻的大电流 MOSFET。

■特点

- $V_{ds} = -100V$
- $I_d = -1.0A$
- $R_{ds(on)} = 750m\Omega$ ($V_{gs} = -10V$)
- $R_{ds(on)} = 800m\Omega$ ($V_{gs} = -4.5V$)

■绝对最大额定值

如没有特别注明时, $T_a = 25^\circ C$

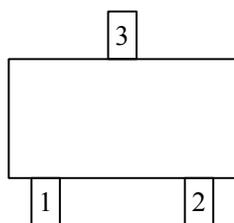
项目	记号	规格范围	单位	
漏极 - 源极电压	V_{ds}	-100	V	
栅极 - 源极电压	V_{gs}	± 20	V	
漏极电流 (定常) $T_j = 150^\circ C$	Id	$T_a = 25^\circ C$	-1.0	A
		$T_a = 70^\circ C$	-0.5	
漏极电流 (脉冲)	I_{dm}	-4.0	A	
容许功耗	Pd	$T_c = 25^\circ C$	1.25	W
		$T_c = 70^\circ C$	0.80	
动作结合部温度	T_j	150	$^\circ C$	
结合部温度及保存温度范围	T_{stg}	-55 ~ 150	$^\circ C$	

■热特性

项目	记号	典型值	最大值	单位
最大结合部 - 环境热阻	$R_{\theta ja}$		120	$^\circ C/W$

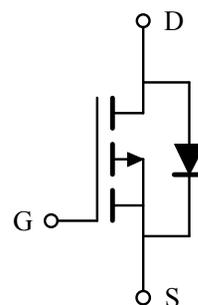
■引脚配置图

SOT-23(俯视图)



引脚编号	引脚名称
1	GATE
2	SOURCE
3	DRAIN

■电路图



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■电特性

如没有特别注明时, Ta=25℃

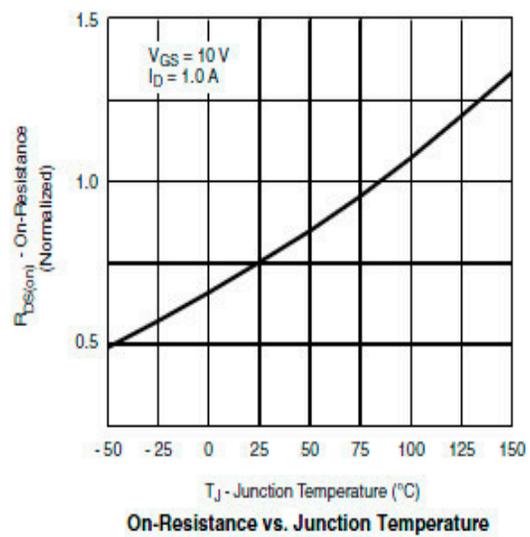
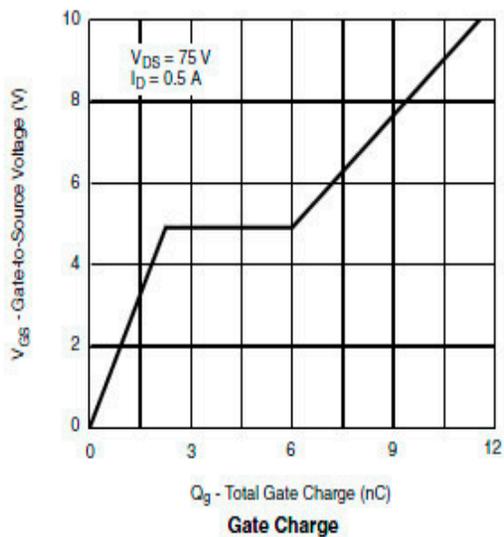
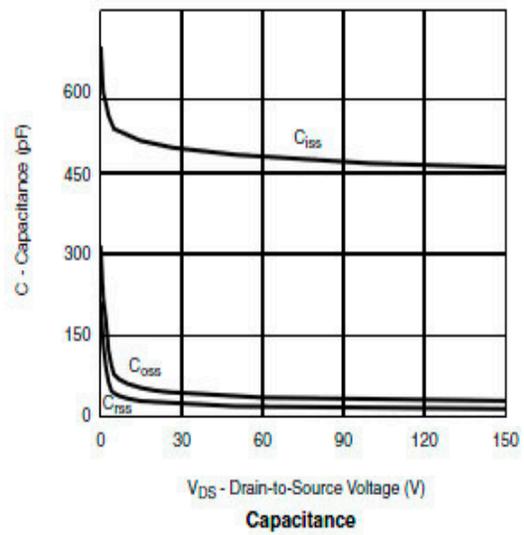
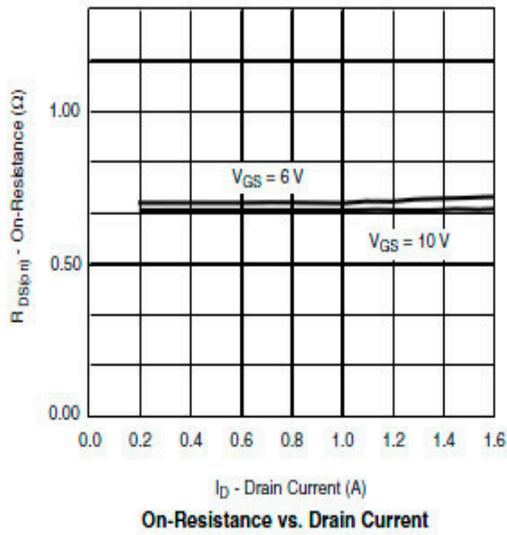
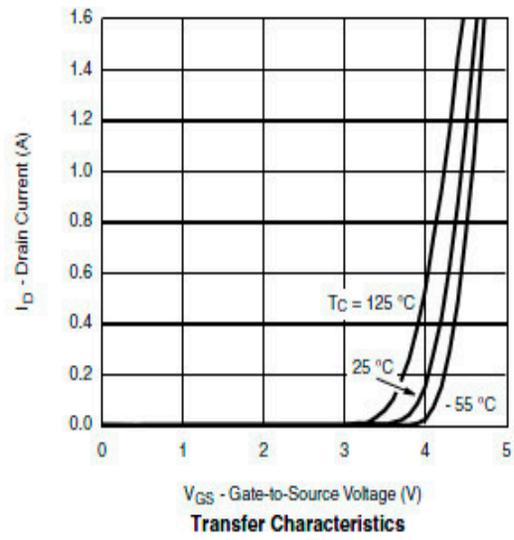
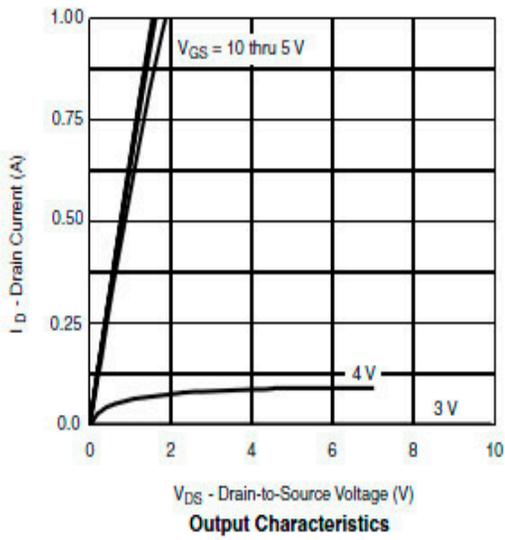
项目	记号	条件	最小值	典型值	最大值	单位	
静态特性							
漏极 - 源极击穿电压	BV _{dss}	V _{gs} =0V, I _d =-250μA	-100			V	
栅极接地时漏极电流	I _{dss}	V _{ds} =-80V, V _{gs} =0V			-1	μA	
		V _{ds} =-80V, V _{gs} =0V, Ta=85℃			-30		
栅极漏电流	I _{gss}	V _{ds} =0V, V _{gs} =±12V			±100	nA	
栅极阈值电压	V _{gs(th)}	V _{ds} =V _{gs} , I _d =-250μA	-1.0		-2.5	V	
导通时漏极电流	I _{d(on)}	V _{gs} =-10V, V _{ds} ≥-15V	-1.6			A	
漏极 - 源极导通电阻	R _{ds(on)}	V _{gs} =-10V, I _d =-1.0A		650	750	mΩ	
		V _{gs} =-4.5V, I _d =-0.5A		700	800		
正向跨导	G _{fs}	V _{ds} =-15V, I _d =-0.5A		2.8		S	
二极管正向压降	V _{sd}	I _s =-0.5A, V _{gs} =0V		-0.75	-1.30	V	
寄生二极管最大连续电流	I _s				-1.0	A	
动态特性							
输入电容	C _{iss}	V _{gs} =0V, V _{ds} =-25V, f=1MHz		450	650	pF	
输出电容	C _{oss}				50		pF
反馈电容	C _{rss}				30		pF
开关特性							
总栅极电荷	Q _g	V _{gs} =-10V, V _{ds} =-75V I _d ≡-0.5A		9.0	20.0	nC	
栅极 - 源极电荷	Q _{gs}			2.5		nC	
栅极 - 漏极电荷	Q _{gd}			3.5		nC	
导通延迟时间	t _{d(on)}	V _{gs} =-10V, V _{ds} =-75V R _L =75Ω, I _d ≡-1.0A R _{gen} =6.0Ω		10	20	ns	
导通上升时间	t _r			15	30	ns	
关闭延迟时间	t _{d(off)}			20	40	ns	
关闭下降时间	t _f			15	30	ns	

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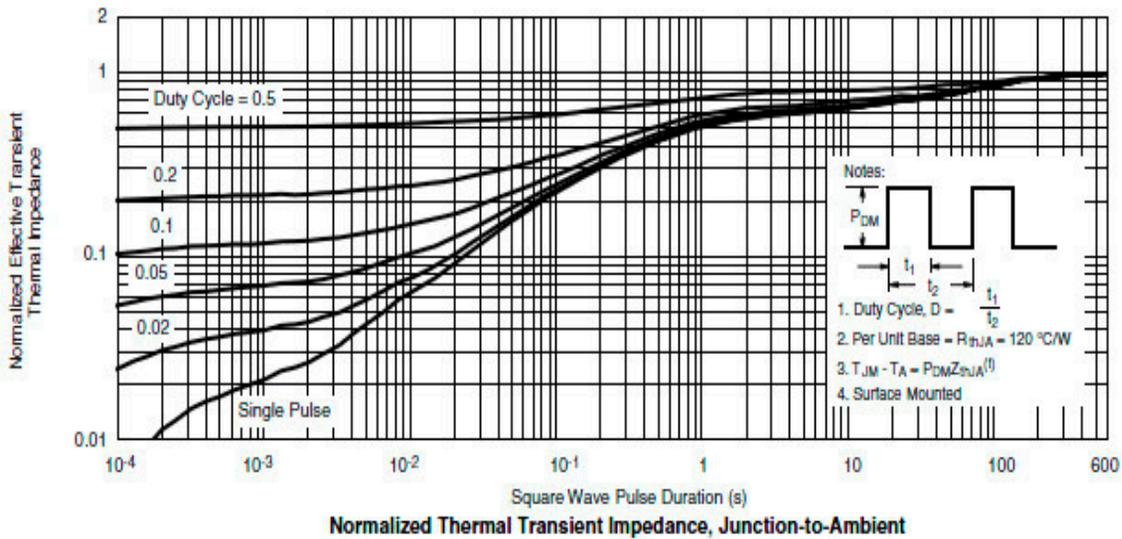
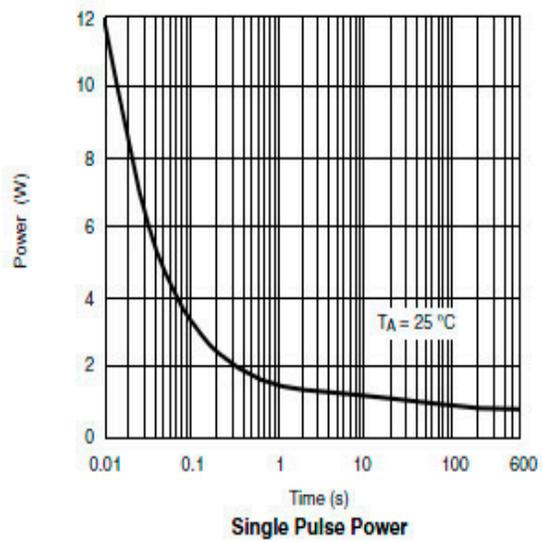
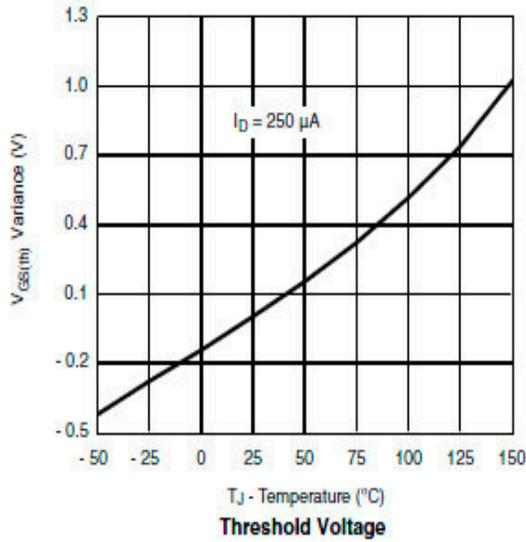
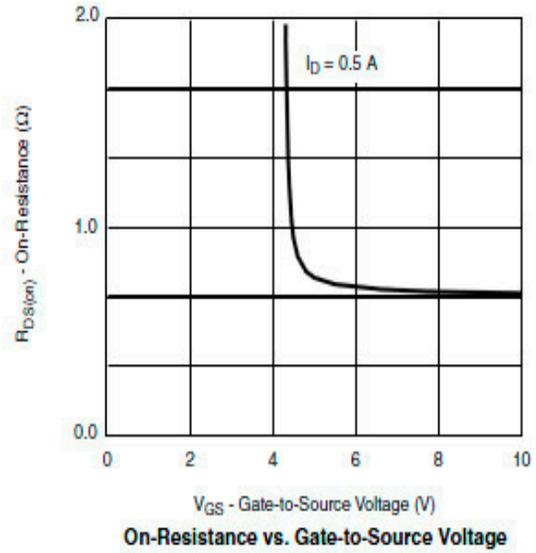
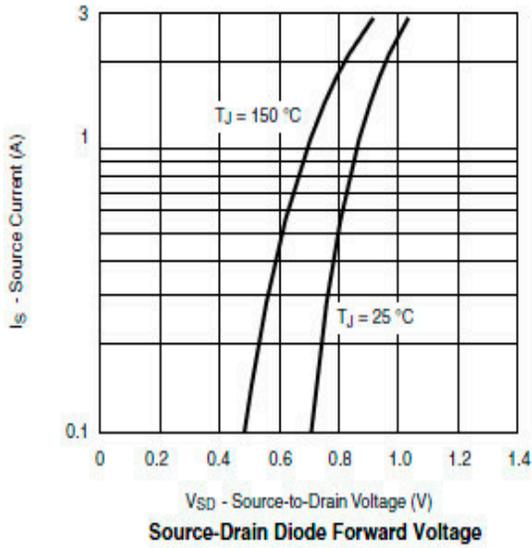
■ 标准特性和热特性曲线



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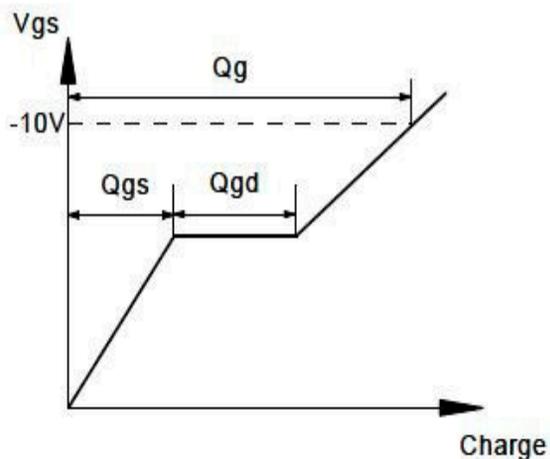
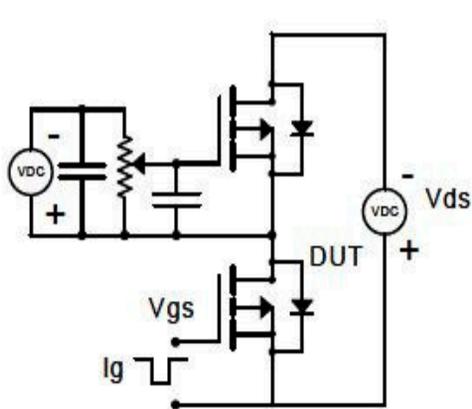
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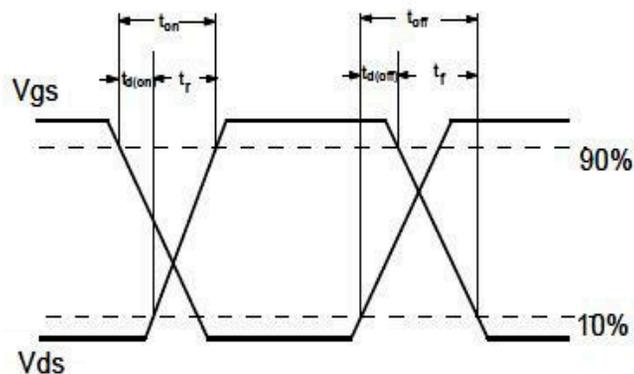
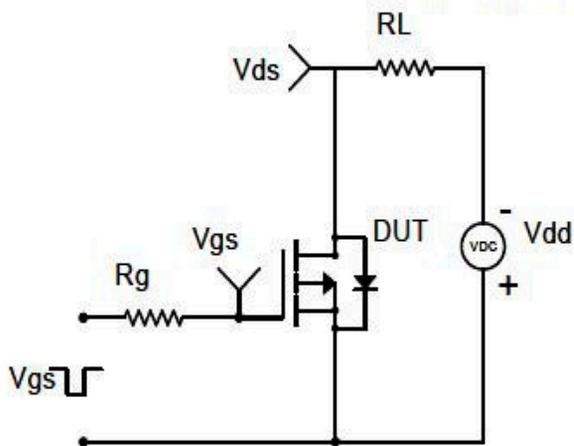
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