

FDS4953

-30V P- Channel Enhancement-Mode MOSFET

VDS= -30V

RDS(ON), Vgs@-10V, Ids@-4.5A = 63mΩ

RDS(ON), Vgs@-4.5V, Ids@-3.6A = 90mΩ

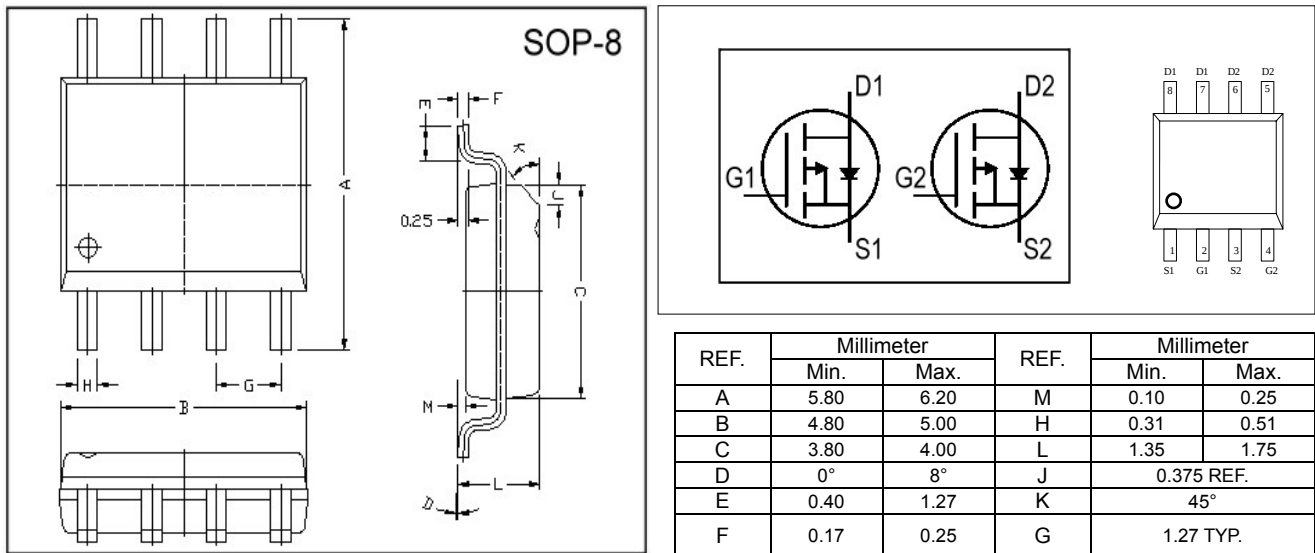
Features

Advanced trench process technology

High Density Cell Design For Ultra Low On-Resistance

Improved Shoot-Through FOM

Package Dimensions



Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	-30	V
Gate-Source Voltage	V _{GS}	± 20	
Continuous Drain Current	I _D	-5.3	A
Pulsed Drain Current ¹⁾	I _{DM}	-20	
Maximum Power Dissipation	P _D	2.5	W
		1.2	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C
Junction-to-Ambient Thermal Resistance (PCB mounted) ²⁾	R _{θJA}	62.5	°C/W

Notes

¹⁾ Pulse width limited by maximum junction temperature.

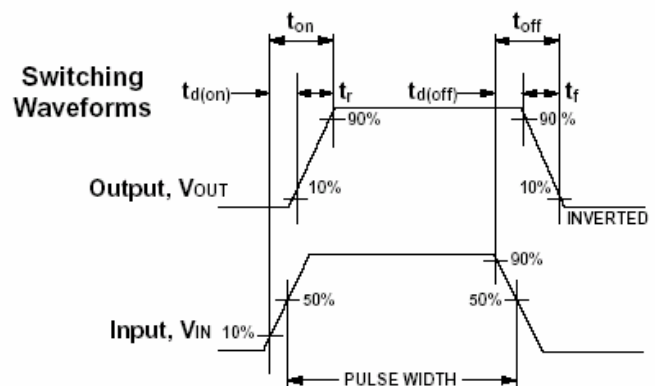
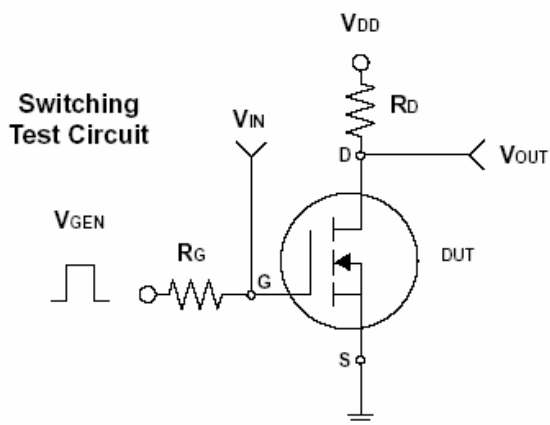
²⁾ Surface Mounted on FR4 Board, t ≤ 5 sec.

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ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage	B _V DSS	V _{GS} = 0V, I _D = -250uA	-30			V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = -4.5V, I _D = -3.6A		70	90	mΩ
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -4.5A		50	63	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D = -250uA	-1	1.7	-3	V
Zero Gate Voltage Drain Current 0	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1	uA
Gate Body Leakage	I _{GSS}	V _{GS} = ± 16V, V _{DS} = 0V			± 100	nA
Forward Transconductance	g _{fs}	V _{DS} = -10V, I _D = -5.3A		10	—	S
Dynamic ¹⁾						
Total Gate Charge	Q _g	V _{DS} =-15V, I _D = -5.3A V _{GS} = -10V		28		nC
Gate-Source Charge	Q _{gs}			3		
Gate-Drain Charge	Q _{gd}			7		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -15V, R _L = 15Ω I _D = -1A, V _{GEN} = -10V R _G = 6Ω		9		ns
Turn-On Rise Time	t _r			15		
Turn-Off Delay Time	t _{d(off)}			75		
Turn-Off Fall Time	t _f			40		
Input Capacitance	C _{iss}	V _{DS} = -15V, V _{GS} = 0V f = 1.0 MHz		745		pF
Output Capacitance	C _{oss}			440		
Reverse Transfer Capacitance	C _{rss}			120		
Source-Drain Diode						
Max. Diode Forward Current	I _S				-2.6	A
Diode Forward Voltage	V _{SD}	I _S = -2.6A, V _{GS} = 0V			-1.3	V

¹⁾ Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$



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Typical Characteristics (T_J = 25°C Noted)

