

20V Dual N-Channel Enhancement Mode MOSFET

VDS= 20V

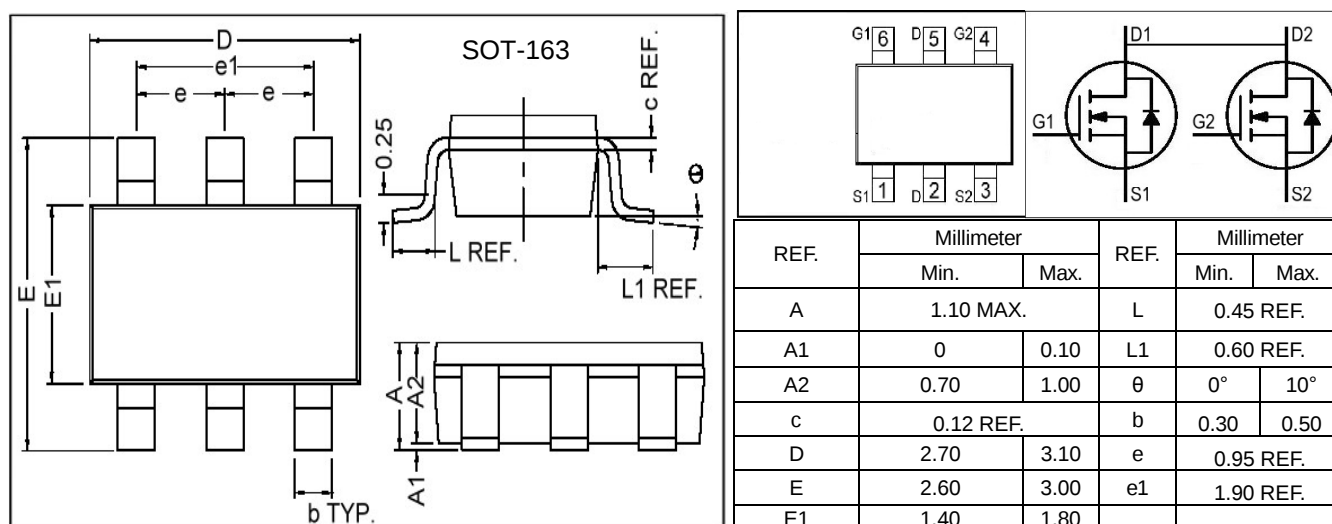
RDS(ON), Vgs@2.5V, Ids@3.4A < 46mΩ

RDS(ON), Vgs@4.V, Ids@4.3A < 30mΩ

Features

Advanced trench process technology
High Density Cell Design For Ultra Low On-Resistance
High Power and Current handling capability
Ideal for Li ion battery pack applications

Package Dimensions



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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	± 12	
Continuous Drain Current	I _D	4	A
Pulsed Drain Current ¹⁾	I _{DM}	25	
Maximum Power Dissipation	P _D	1.4	W
		1	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C
Junction-to-Ambient Thermal Resistance (PCB mounted) ²⁾	R _{θJA}	100	°C/W

Notes

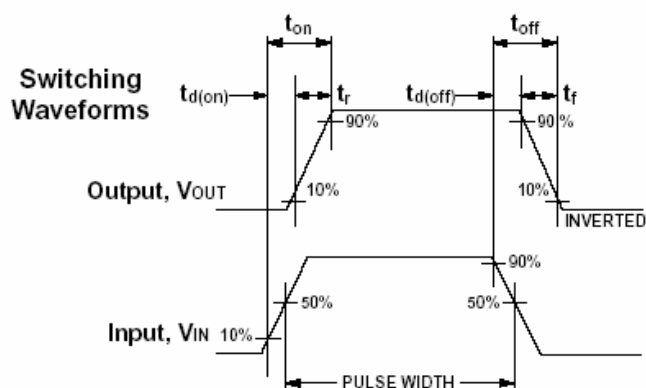
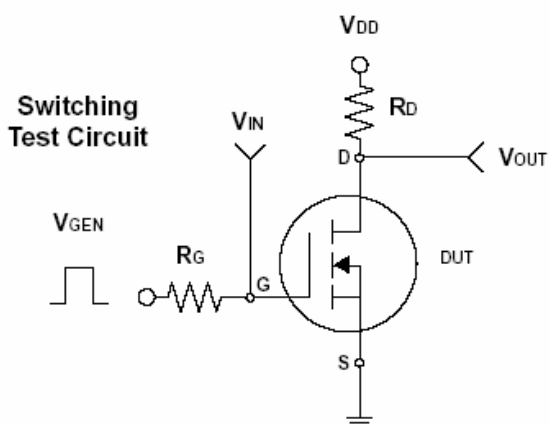
- ¹⁾ Pulse width limited by maximum junction temperature.
²⁾ Surface Mounted on FR4 Board, t ≤ 5 sec.

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ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D = 250uA	20			V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = 2.5V, I _D = 3.4A		35	46	mΩ
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = 4.0V, I _D = 4.3A		27	30	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D = 250uA	0.5	0.8	1.5	V
Zero Gate Voltage Drain Current 0	I _{DSS}	V _{DS} = 16V, V _{GS} = 0V			1	uA
Gate Body Leakage	I _{GSS}	V _{GS} = ± 8V, V _{DS} = 0V			±100	nA
Forward Transconductance	g _{fs}	V _{DS} = 5V, I _D = 4A		10	—	S
Dynamic						
Total Gate Charge	Q _g	V _{DS} = 10V, I _D = 4A V _{GS} = 4V		11		nC
Gate-Source Charge	Q _{gs}			2.2		
Gate-Drain Charge	Q _{gd}			2.5		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 10V, R _G = 10Ω I _D = 1A, V _{GS} = 4V		18.3		ns
Turn-On Rise Time	t _r			4.8		
Turn-Off Delay Time	t _{d(off)}			43.5		
Turn-Off Fall Time	t _f			20		
Input Capacitance	C _{iss}	V _{DS} = 8V, V _{GS} = 0V f = 1.0 MHz		800		pF
Output Capacitance	C _{oss}			155		
Reverse Transfer Capacitance	C _{rss}			125		
Source-Drain Diode						
Max. Diode Forward Current	I _S			2		A
Diode Forward Voltage	V _{SD}	I _S = 1.7A, V _{GS} = 0V		0.8	1.2	V

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



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Typical Characteristics (T_J = 25°C Noted)

