

**20V Dual N-Channel Enhancement Mode MOSFET**

**VDS= 20V**

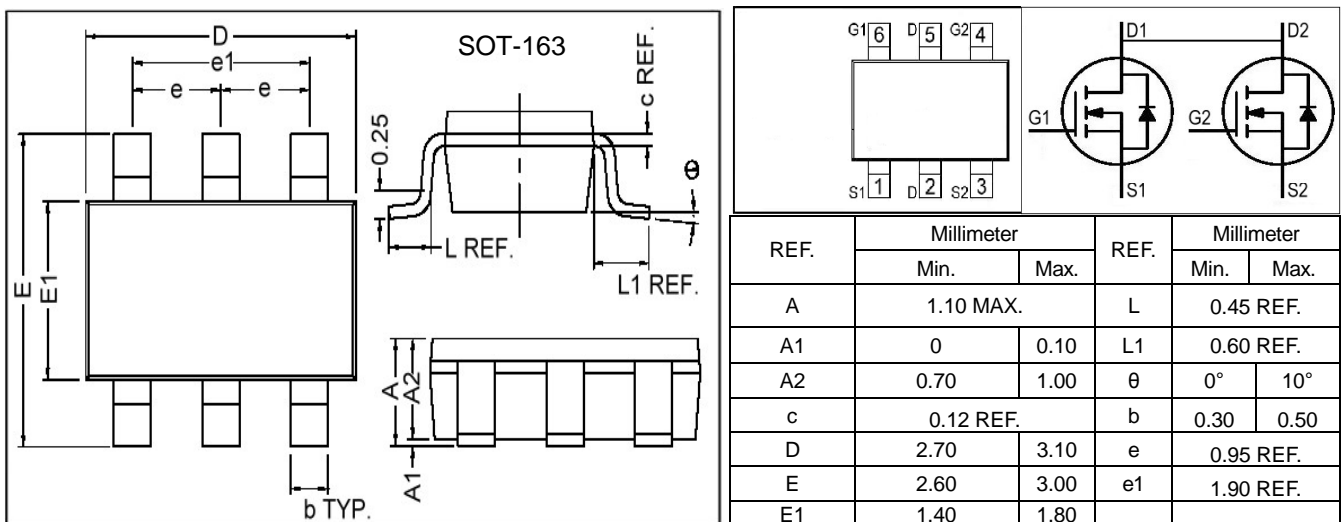
**RDS(ON), Vgs@2.5V, Ids@3.4A < 46mΩ**

**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 <sub>DS</sub>	20	V	
Gate-Source Voltage	V <sub>GS</sub>	± 12		
Continuous Drain Current	I <sub>D</sub>	4	A	
Pulsed Drain Current <sup>1)</sup>	I <sub>DM</sub>	25		
Maximum Power Dissipation	P <sub>D</sub>	TA = 25°C	1.4	W
		TA = 75°C	1	
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C	
Junction-to-Ambient Thermal Resistance (PCB mounted) <sup>2)</sup>	R <sub>θJA</sub>	100	°C/W	

Notes

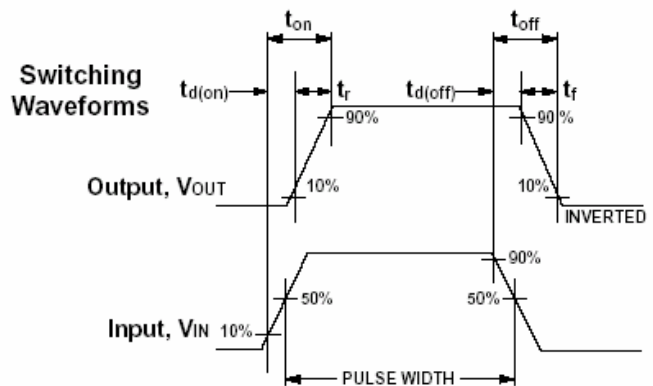
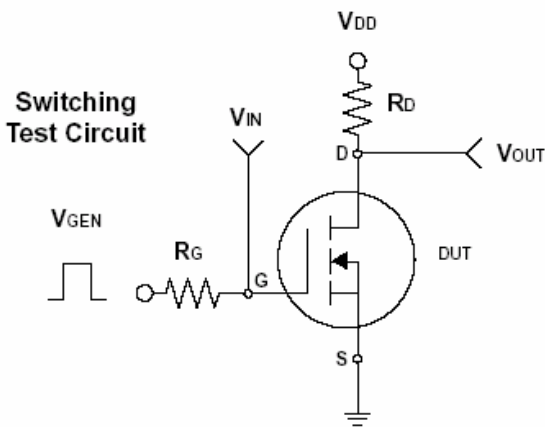
- 1) Pulse width limited by maximum junction temperature.
- 2) Surface Mounted on FR4 Board, t ≤ 5 sec.

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ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	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	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.8	1.5	V
Zero Gate Voltage Drain Current 0	$I_{DSS}$	$V_{DS} = 16V, V_{GS} = 0V$			1	μA
Gate Body Leakage	$I_{GSS}$	$V_{GS} = \pm 8V, V_{DS} = 0V$			±100	nA
Forward Transconductance	$g_{fs}$	$V_{DS} = 5V, I_D = 4A$		10	—	S
<b>Dynamic</b>						
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	$t_{d(on)}$	$V_{DD} = 10V, R_G = 10\Omega$ $I_D = 1A, V_{GS} = 4V$		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	$C_{iss}$	$V_{DS} = 8V, V_{GS} = 0V$ $f = 1.0\text{ MHz}$		800		pF
Output Capacitance	$C_{oss}$			155		
Reverse Transfer Capacitance	$C_{rss}$			125		
<b>Source-Drain Diode</b>						
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 ≤ 300μs, duty cycle ≤ 2%



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Typical Characteristics (T<sub>J</sub> = 25°C Noted)

