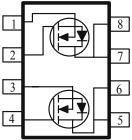
### Dual N-Channel 30-V (D-S) MOSFET

These miniature surface mount MOSFETs utilize High Cell Density process. Low  $r_{DS(on)}$  assures minimal power loss and conserves energy, making this device ideal for use in power management circuitry. Typical applications are PWMDC-DC converters, power management in portable and battery-powered products such as computers, printers, battery charger, telecommunication power system, and telephones power system.

- Low r<sub>DS(on)</sub> Provides Higher Efficiency and Extends Battery Life
- Miniature SO-8 Surface Mount Package Saves Board Space
- High power and current handling capability
- Low side high current DC-DC Converter applications

PRODUCT SUMMARY			
V <sub>DS</sub> (V)	$r_{DS(on)} m(\Omega) \qquad I_D (A)$		
30	$34 @ V_{GS} = 10V$	6.9	
	$41 @ V_{GS} = 4.5V$	6.0	





ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	Limit	Units	
Drain-Source Voltage		V <sub>DS</sub>	30	V	
Gate-Source Voltage		V <sub>GS</sub>	± 20	v	
Continuous Drain Current <sup>a</sup>	T <sub>A</sub> =25°C	т	± 6.9		
	$T_{A}=25^{\circ}C$ $T_{A}=70^{\circ}C$	Ъ	± 5.6	А	
Pulsed Drain Current <sup>b</sup>		I <sub>DM</sub>	$\pm 40$		
Continuous Source Current (Diode Conduction) <sup>a</sup>		I <sub>S</sub>	1.7	А	
Dever Dissinction <sup>8</sup>	T <sub>A</sub> =25°C	P <sub>D</sub>	2.1	W	
Power Dissipation <sup>a</sup>	$T_{A}=25^{\circ}C$ $T_{A}=70^{\circ}C$	1 D	1.3	vv	
Operating Junction and Storage Temperature Range		T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C	

THERMAL RESISTANCE RATINGS							
Parameter		Symbol	Maximum	Units			
Maximum Junction-to-Ambient <sup>a</sup>	t <= 10 sec	D	62.5	°C/W			
	Steady-State	$R_{\theta JA}$	110	°C/W			

Notes

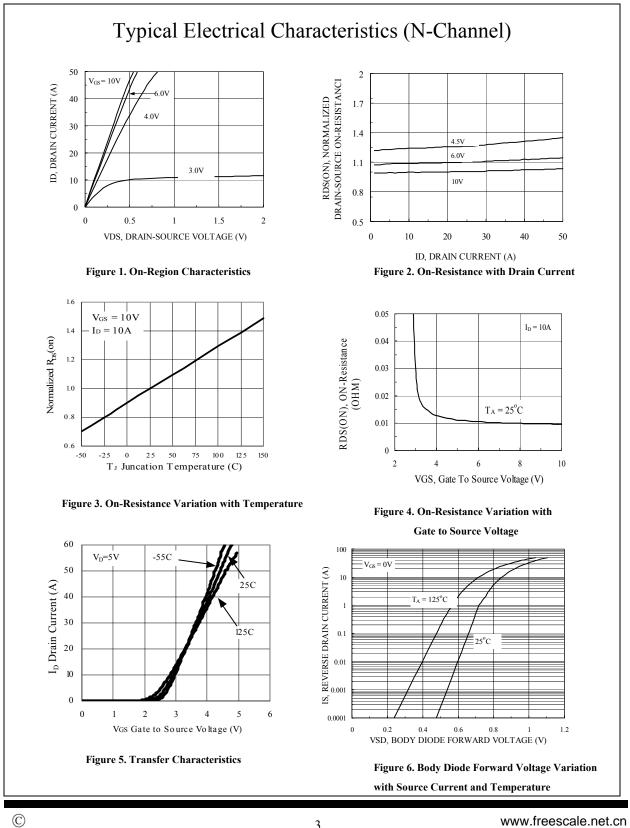
- a. Surface Mounted on 1" x 1" FR4 Board.
- b. Pulse width limited by maximum junction temperature

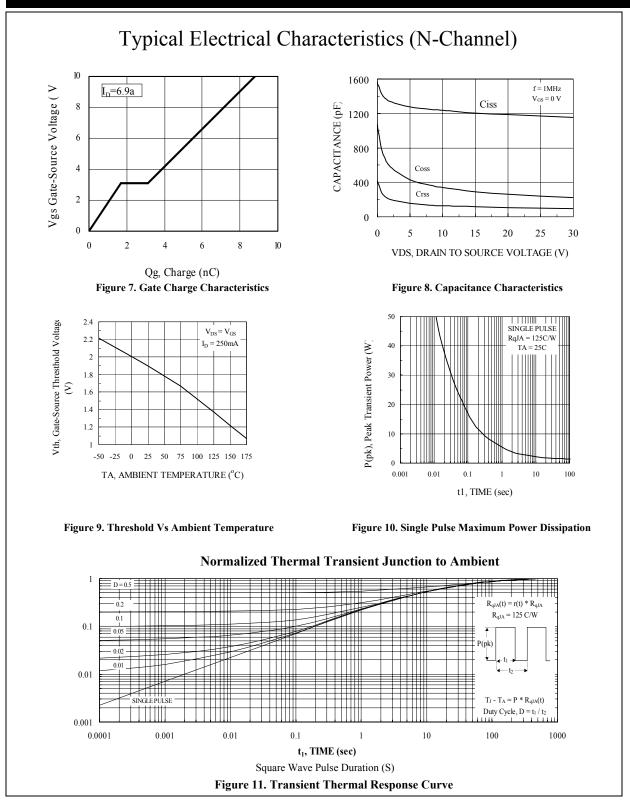
Parameter	C11	Test Conditions	Limits			Unit
rarameter	Symbol	Test Conditions	Min	Тур	Max	Umu
Static						
Gate-Threshold Voltage	V <sub>GS(th)</sub>	$V_{DS} = V_{GS}, I_D = 250 \text{ uA}$	1			
Gate-Body Leakage	I <sub>GSS</sub>	$V_{DS} = 0 V, V_{GS} = \pm 20 V$			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	$V_{DS} = 24 V, V_{GS} = 0 V$			1	uA
Zero Gate Voltage Drain Current	IDSS	$V_{DS} = 24 \text{ V}, V_{GS} = 0 \text{ V}, T_J = 55^{\circ}\text{C}$			10	un
On-State Drain Current <sup>A</sup>	I <sub>D(on)</sub>	$V_{DS} = 5 V, V_{GS} = 10 V$	20			Α
Drain-Source On-Resistance <sup>A</sup>	r <sub>DS(on)</sub>	$V_{GS} = 10 \text{ V}, I_D = 6.9 \text{ A}$			34	mΩ
Drain-Source On-Resistance		$V_{GS} = 4.5 \text{ V}, I_D = 6.0 \text{ A}$			41	
Forward Tranconductance <sup>A</sup>	g <sub>fs</sub>	$V_{DS} = 15 \text{ V}, I_D = 6.9 \text{ A}$		25		S
Diode Forward Voltage	V <sub>SD</sub>	$I_{\rm S} = 1.7$ A, $V_{\rm GS} = 0$ V		0.77		V
Dynamic <sup>b</sup>						
Total Gate Charge	Qg	$V_{DS} = 15 V, V_{GS} = 4.5 V,$ $I_D = 6.9 A$		4.0		nC
Gate-Source Charge	Q <sub>gs</sub>			1.1		
Gate-Drain Charge	Q <sub>gd</sub>			1.4		
Turn-On Delay Time	t <sub>d(on)</sub>			12		
Rise Time	t <sub>r</sub>	$V_{DD} = 15 \text{ V},  \text{R}_{\text{L}} = 15 \Omega ,  \text{I}_{\text{D}} = 1 \text{ A},$		10		
Turn-Off Delay Time	t <sub>d(off)</sub>	$V_{GEN} = 10 V$		60		nS
Fall-Time	tf			15		
Source-Ddrain Reverse Recovery Time	t <sub>rr</sub>	$I_F = 1.7 \text{ A}, \text{ Di/Dt} = 100 \text{ A/uS}$		50		

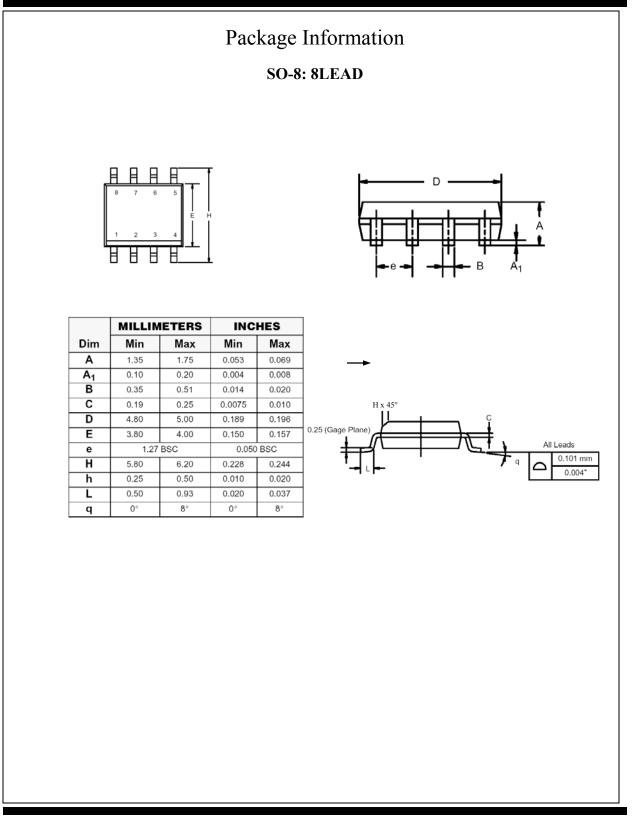
Notes

- a. Pulse test:  $PW \le 300$ us duty cycle  $\le 2\%$ .
- b. Guaranteed by design, not subject to production testing.

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# Ordering information

## • AM4920N-T1-XX

- A: Analog Power
- M: MOSFET
- 4920: Part number
- N: N-Channel
- T1: Tape & reel
- XX: Blank: StandardPF: Leadfree