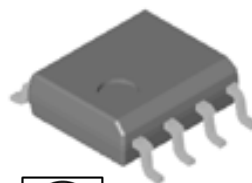


Dual N-Channel 30-V (D-S) MOSFET

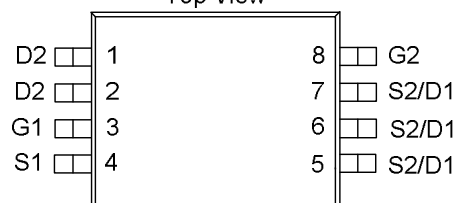
These miniature surface mount MOSFETs utilize a high cell density trench process to provide low $r_{DS(on)}$ and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

- Low $r_{DS(on)}$ provides higher efficiency extends battery life
- Low thermal impedance copper leadfr SOIC-8 saves board space
- Fast switching speed
- High performance trench technology



RoHS
COMPLIANT
HALOGEN
FREE

SOIC8
Top View



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter	Symbol	FET#1	FET#1	Units
Drain-Source Voltage	V_{DS}	30	30	V
Gate-Source Voltage	V_{GS}	20	20	
Continuous Drain Current ^a	$T_A=25^\circ\text{C}$	I_D	9.5	A
	$T_A=70^\circ\text{C}$		7.7	
Pulsed Drain Current ^b	I_{DM}	40	40	
Continuous Source Current (Diode Conduction) ^a	I_S	4.5	4.5	A
Power Dissipation ^a	$T_A=25^\circ\text{C}$	P_D	2.1	W
	$T_A=70^\circ\text{C}$		1.3	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

Parameter	Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	$t \leq 10 \text{ sec}$	62.5	$^\circ\text{C/W}$
	Steady-State	110	$^\circ\text{C/W}$

Notes

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

SPECIFICATIONS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Conditions	Limits				Unit
			FET#	Min	Typ	Max	
Static							
Gate-Threshold Voltage	V _{GS(th)}	V _{GS} = V _{DS} , I _D = 250 uA	1	1			V
		V _{GS} = V _{DS} , I _D = 250 uA	2	1			
Gate-Body Leakage	I _{GSS}	V _{GS} = 20 V, V _{DS} = 0 V	1			±100	nA
		V _{GS} = 20 V, V _{DS} = 0 V	2			±100	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 24 V, V _{GS} = 0 V	1			1	uA
		V _{DS} = 24 V, V _{GS} = 0 V	2			1	
On-State Drain Current ^A	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	1	40			A
		V _{DS} = -5 V, V _{GS} = -10 V	2	40			
Drain-Source On-Resistance ^A	r _{DS(on)}	V _{GS} = 10 V, I _D = 2 A	1			15	mΩ
		V _{GS} = 4.5 V, I _D = 2 A				19	
		V _{GS} = 10 V, I _D = 2 A	2			15	
		V _{GS} = 4.5 V, I _D = 2 A				23	
Diode Forward Voltage	V _{SD}	I _S = 2A	1		0.8		V
		I _S = -2A	2		0.8		
Forward Tranconductance ^A	g _{fs}	V _{DS} = 15 V, I _D = 2 A	1		64		S
		V _{DS} = 15 V, I _D = 2 A	2		64		
Dynamic							
Total Gate Charge	Q _g	V _{DS} =15V, V _{GS} =4.5V, I _D =2A	1		3		nC
			2		3		
Gate-Source Charge	Q _{gs}		1		1		
			2		1		
Gate-Drain Charge	Q _{gd}		1		1		
		2		1			
Turn-On Delay Time	t _{d(on)}	N-Chaneel V _{DD} =15V, V _{GS} =10V, ID=1A , R _{GEN} =25Ω,	1		5		nS
			2		5		
Rise Time	t _r	ID=1A , R _{GEN} =25Ω,	1		5		
			2		5		
Turn-Off Delay Time	t _{d(off)}	P-Channel	1		16		
		VDD=-15V, VGS=-10V, ID=-1A RGEN=15Ω	2		16		
Fall-Time	t _f		1		7		
			2		7		

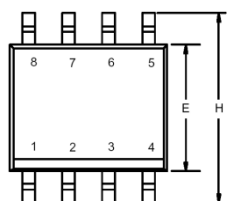
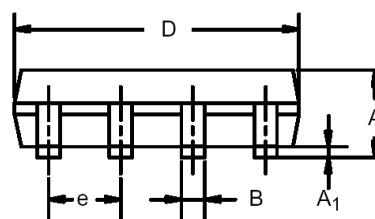
Notes

- Pulse test: $PW \leq 300\mu\text{s}$ duty cycle $\leq 2\%$.
- Guaranteed by design, not subject to production testing.

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Package Information

SO-8: 8LEAD



Dim	MILLIMETERS		INCHES	
	Min	Max	Min	Max
A	1.35	1.75	0.053	0.069
A ₁	0.10	0.20	0.004	0.008
B	0.35	0.51	0.014	0.020
C	0.19	0.25	0.0075	0.010
D	4.80	5.00	0.189	0.196
E	3.80	4.00	0.150	0.157
e	1.27 BSC		0.050 BSC	
H	5.80	6.20	0.228	0.244
h	0.25	0.50	0.010	0.020
L	0.50	0.93	0.020	0.037
q	0°	8°	0°	8°

