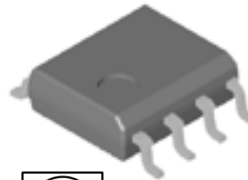


Dual N-Channel 30-V (D-S) MOSFET

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.

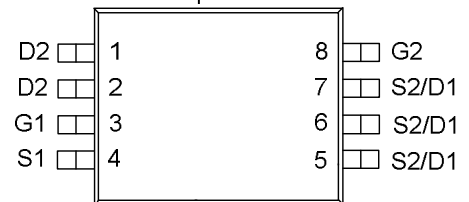
- Low $r_{DS(on)}$ provides higher efficiency extends battery life
- Low thermal impedance copper leadfr SOIC-8 saves board space
- Fast switching speed
- High performance trench technology



RoHS
COMPLIANT
HALOGEN
FREE

PRODUCT SUMMARY		
FET#	$r_{DS(on)}$ m(Ω)	I_D (A)
1	19 @ $V_{GS} = 4.5V$	8.4
	15 @ $V_{GS} = 10V$	9.5
2	23 @ $V_{GS} = 4.5V$	7.7
	15 @ $V_{GS} = 10V$	9.5

SOIC8
Top View



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ 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	I_D	$T_A=25^\circ C$	9.5	A
		$T_A=70^\circ C$	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	P_D	$T_A=25^\circ C$	2.1	W
		$T_A=70^\circ C$	1.3	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ C$

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	$R_{\theta JA}$	t <= 10 sec	62.5
		Steady-State	110

Notes

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

SPECIFICATIONS (T _A = 25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Unit
			FET#	Min	Typ	
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
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, I _D =1A , R _{GEN} =25Ω, P-Channel V _{DD} =-15V, V _{GS} =-10V, I _D =-1A R _{GEN} =15Ω	1		
Rise Time	t _r	2			5	
		1			5	
Turn-Off Delay Time	t _{d(off)}	2			5	
		1			16	
Fall-Time	t _f	2			16	
		1			7	
2		7				

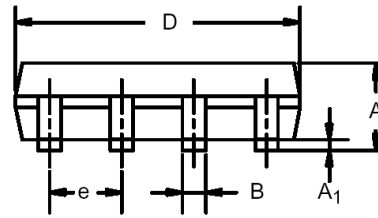
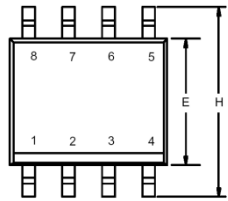
Notes

- a. Pulse test: PW <= 300us duty cycle <= 2%.
- b. 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°

