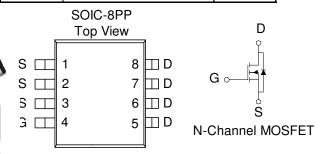
N-Channel 40-V (D-S) MOSFET

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 and
	extends battery life

- Low thermal impedance copper leadframe SOIC-8PP saves board space
- Fast switching speed
- High performance trench technology

PRODUCT SUMMARY			
$V_{DS}(V)$	$r_{DS(on)} m(\Omega)$	I _D (A)	
40	$9 @ V_{CS} = 10V$	20	
	$12 @ V_{CS} = 4.5V$	17	



ABSOLUTE MAXIMUM RATINGS (T _A = 25 °C UNLESS OTHERWISE NOTED))	
Parameter		Symbol	Limit	Units	
Drain-Source Voltage			40	V	
Gate-Source Voltage			±20	V	
	T _A =25°C	T_	<u>+2</u> 0		
Continuous Drain Current ^a	T _A =25°C T _A =70°C	11)	±16	Α	
Pulsed Drain Current ^b			±50		
Continuous Source Current (Diode Conduction) ^a			2.3	A	
D. C. a	T _A =25°C	D	5.0	W	
Power Dissipation ^a	T _A =25°C T _A =70°C	r D	3.2	VV	
Operating Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 150	°C	

HALOGEN FREE

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Maximum	Units	
a	t <= 10 sec	$R_{ heta JA}$	25	°C/W	
Maximum Junction-to-Ambient ^a	Steady State		65	°C/W	

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Notes

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

Analog Power AM7442N

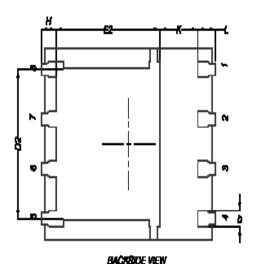
SPECIFICATIONS (T _A = 25°C UNLESS OTHERWISE NOTED)						
Parameter	C	Limits			Unit	
Parameter	Symbol	Test Conditions	Min	Тур	Max	Unit
Static						
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250 \text{ uA}$	1		3	V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0 \text{ V}, V_{GS} = 20 \text{ V}$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 32 \text{ V}, V_{GS} = 0 \text{ V}$			1	uA
		$V_{DS} = 32 \text{ V}, V_{GS} = 0 \text{ V}, T_{J} = 55^{\circ}\text{C}$			25	
On-State Drain Current ^A	$I_{D(on)}$	$V_{DS} = 5 \text{ V}, V_{GS} = 10 \text{ V}$	34			A
Drain-Source On-Resistance ^A	$r_{\mathrm{DS(on)}}$	$V_{GS} = 10 \text{ V}, I_D = 7.5 \text{ A}$			9	mΩ
Drain-Source On-Resistance	-DS(0ff)	$V_{GS} = 4.5 \text{ V}, I_D = 7 \text{ A}$			12	
Forward Tranconductance ^A	g_{fs}	$V_{DS} = 15 \text{ V}, I_D = 7.5 \text{ A}$		22		S
Diode Forward Voltage	V_{SD}	$I_S = 2.1 \text{ A}, V_{GS} = 0 \text{ V}$		1.1		V
Dynamic ^b						
Total Gate Charge	Q_{g}	$V_{DS} = 15 \text{ V}, V_{GS} = 4.5 \text{ V},$		25		
Gate-Source Charge	Q_{gs}	$I_{DS} = 13 \text{ V}, \text{ V}_{GS} = 4.3 \text{ V},$ $I_{D} = 7.5 \text{ A}$		5.1		nC
Gate-Drain Charge	Q_{gd}	1D = 7.3 A		12		
Input Capacitance	C_{iss}	$V_{DS} = 15 \text{ V}, V_{GS} = 0 \text{ V},$		2060		
Output Capacitance	C_{oss}	$\mathbf{v}_{\mathrm{DS}} = 13 \mathbf{v}, \mathbf{v}_{\mathrm{GS}} = 0 \mathbf{v},$ $\mathbf{f} = 1 \mathbf{M} \mathbf{Hz}$		230		pF
Reverse Transfer Capacitance	C_{rss}	I = IIVIFIZ		180		
Turn-On Delay Time	$t_{d(on)}$			10		
Rise Time	t_{r}	$V_{DD} = 25 \text{ V}, R_L = 25 \Omega$, ID = 34 A,		6		nS
Turn-Off Delay Time	$t_{ m d(off)}$	$V_{GEN} = 10 \text{ V}$		49		113
Fall-Time	t_{f}			18		

Notes

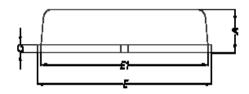
- a. Pulse test: $PW \le 300$ us duty cycle $\le 2\%$.
- b. Guaranteed by design, not subject to production testing.

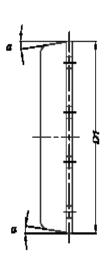
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Package Information



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Bu.	MOLLIMETERS			
DM.	MON.	MOM.	MAX	
A	0.90	1.00	1.10	
4	0.33	0.41	0.61	
C	0.20	0.25	0.30	
D1	4.80	4.90	5.00	
D2	3.81	2.81	298	
Ε	5.90	6.00	8.10	
Ef	5.70	6.76	5.80	
E2	8.36	3.58	278	
0	1.27 B8C			
H	0.41	0.61	0.81	
K	1.10	•	•	
Ĺ	0.51	0.67	0.71	
L1	0.06	0.13	0.20	
Œ	ť	-	12*	