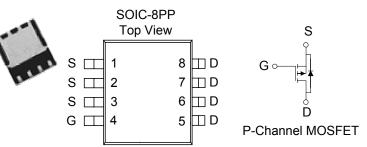
P-Channel 20-V (D-S) MOSFET

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-8 saves board space
- Fast switching speed
- High performance trench technology

PRODUCT SUMMARY				
$V_{DS}(V)$	$r_{DS(on)} m(\Omega)$	$I_{D}(A)$		
-20	$8.4@V_{CS} = -4.5V$	-20		
-20	$10.4 @V_{CS} = -2.5V$	-18		



ABSOLUTE MAXIMUM RATINGS (T _A = 25 °C UNLESS OTHERWISE NOTED)					
Parameter Parameter		Symbol	Maximum	Units	
Drain-Source Voltage			-20	V	
Gate-Source Voltage		V_{cs}	±8	V	
	T _A =25°C	l T	-20		
Continuous Drain Current ^a	$T_A=25^{\circ}C$ $T_A=70^{\circ}C$	1D	-17	A	
Pulsed Drain Current ^b	I_{DM}	±50			
Continuous Source Current (Diode Conduction) ^a		I_S	-2.1	Α	
D D: : a	$T_A=25^{\circ}C$	D_	5.0	W	
Power Dissipation ^a	$T_A=25^{\circ}C$ $T_A=70^{\circ}C$	LD	3.2	• • •	
Operating Junction and Storage Temperature Range		T_{J}, T_{stg}	-55 to 150	°C	

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

1

Notes

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

SPECIFICATIONS (T _A = 25°C UNLESS OTHERWISE NOTED) Limits							
Parameter	Symbol	Test Conditions			Max	Unit	
Static			11.222	-JP	11.242		
Gate-Threshold Voltage	V _{GS(th)}	$V_{DS} = V_{GS}, I_D = -250 \text{ uA}$	-0.4				
Gate-Body Leakage	I _{GSS}	$V_{DS} = 0 V, V_{GS} = \pm 8 V$			±100	nA	
Zara Cata Valta da Drain Gurrant	Ingg	$V_{DS} = -16 \text{ V}, V_{GS} = 0 \text{ V}$	-1		-1	T A	
Zero Gate Voltage Drain Current	IDSS	$V_{DS} = -16 \text{ V}, V_{GS} = 0 \text{ V}, T_J = 55^{\circ}\text{C}$			-5	uA	
On-State Drain Current ^A	I _{D(on)}	$V_{DS} = 4.5 \text{ V}, V_{GS} = -10 \text{ V}$	-50			A	
Dia G. Dia A		$V_{GS} = -4.5 \text{ V}, I_D = -13.5 \text{ A}$			8.4		
Drain-Source On-Resistance ^A	IDS(on)	V_{GS} =-2.5 V, I_{D} =-12 A			10.4	mΩ	
Forward Tranconductance ^A	gs	$V_{DS} = -15 \text{ V}, I_D = -11.5 \text{ A}$		70		S	
Diode Forward Voltage	Vsd	$I_S = 2.5 A, V_{GS} = 0 V$		-0.6		V	
Dynamic ^b							
Total Gate Charge	Qg	V_{DS} =-10 V, V_{GS} =-4.5 V, I_{D} =-13.5 A		66			
Gate-Source Charge	Q_{gs}			13		пC	
Gate-Drain Charge	Qgd	ID=-13.3 A		17			
Tum-On Delay Time	td(on)			20			
Rise Time	$t_{\rm r}$	V_{DD} =-10 V, R_L =6 Ω , I_D =-1 A,		23		nS	
Tum-Off Delay Time	td(off)	VGEN=-4.5 V		289		11.5	
Fall-Time	tf			134			

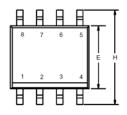
Notes

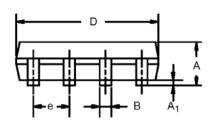
- a. Pulse test: $PW \le 300us duty cycle \le 2\%$.
- b. Guaranteed by design, not subject to production testing.

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Package Information

SO-8: 8LEAD





	MILLIN	IETERS	INC	HES
Dim	Min	Max	Min	Max
Α	1.35	1.75	0.053	0.069
A ₁	0.10	0.20	0.004	0.008
В	0.35	0.51	0.014	0.020
С	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
е	1.27 BSC		0.050	BSC
Н	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°

