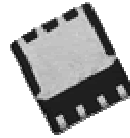


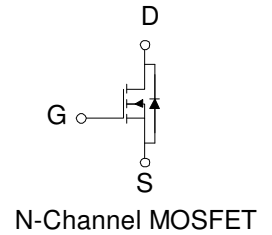
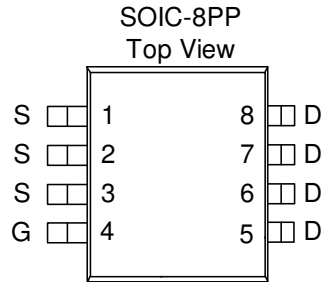
### N-Channel 80-V (D-S) MOSFET

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)
80	11 @ $V_{GS} = 10V$	18
	13 @ $V_{GS} = 4.5V$	17



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ C$ UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Maximum	Units
Drain-Source Voltage	$V_{DS}$	80	V
Gate-Source Voltage	$V_{GS}$	20	
Continuous Drain Current <sup>a</sup>	$I_D$	$T_A=25^\circ C$	18
		$T_A=70^\circ C$	15
Pulsed Drain Current <sup>b</sup>	$I_{DM}$	50	A
Continuous Source Current (Diode Conduction) <sup>a</sup>	$I_S$	2.3	A
Power Dissipation <sup>a</sup>	$P_D$	$T_A=25^\circ C$	5.0
		$T_A=70^\circ C$	3.2
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 <sup>a</sup>	$R_{\theta JA}$	$t \leq 10$ sec	25
		Steady State	65

Notes

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

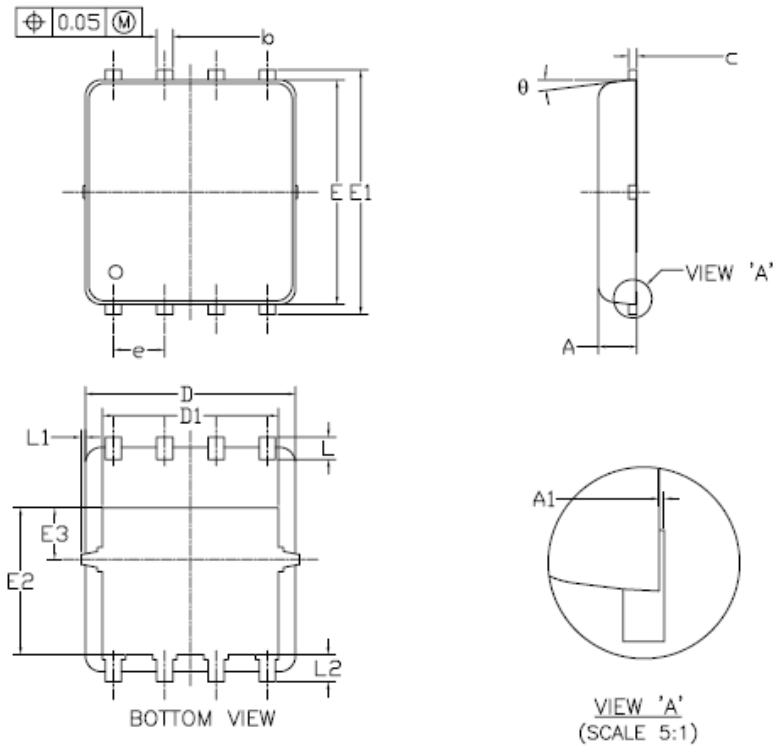
SPECIFICATIONS (T <sub>A</sub> = 25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
<b>Static</b>						
Gate-Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 uA	1			V
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = 12 V			100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 64 V, V <sub>GS</sub> = 0 V			1	uA
		V <sub>DS</sub> = 64 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55°C			5	
On-State Drain Current <sup>A</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> = 5 V, V <sub>GS</sub> = 10 V	40			A
Drain-Source On-Resistance <sup>A</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 2 A			11	mΩ
		V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 2 A			13	
Forward Transconductance <sup>A</sup>	g <sub>s</sub>	V <sub>DS</sub> = 15 V, I <sub>D</sub> = 6 A		40		S
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> = 2.3 A, V <sub>GS</sub> = 0 V		0.7		V
<b>Dynamic<sup>b</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 15 V, V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 6 A		60		nC
Gate-Source Charge	Q <sub>gs</sub>			20		
Gate-Drain Charge	Q <sub>gd</sub>			30		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = 15 V, R <sub>L</sub> = 6 Ω, I <sub>D</sub> = 1 A, V <sub>GEN</sub> = 10 V		17		nS
Rise Time	t <sub>r</sub>			50		
Turn-Off Delay Time	t <sub>d(off)</sub>			200		
Fall-Time	t <sub>f</sub>			70		

## Notes

- Pulse test: PW ≤ 300us duty cycle ≤ 2%.
- Guaranteed by design, not subject to production testing.

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# Package Information



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.85	0.95	1.00	0.033	0.037	0.039
A1	0.00	—	0.05	0.000	—	0.002
b	0.30	0.40	0.50	0.012	0.016	0.020
c	0.15	0.20	0.25	0.006	0.008	0.010
D	5.20 BSC			0.205 BSC		
D1	4.35 BSC			0.171 BSC		
E	5.55 BSC			0.219 BSC		
E1	6.05 BSC			0.238 BSC		
E2	3.625 BSC			0.143 BSC		
E3	1.275 BSC			0.050 BSC		
e	1.27 BSC			0.050 BSC		
L	0.45	0.55	0.65	0.018	0.022	0.026
L1	0	—	0.15	0	—	0.006
L2	0.68 REF			0.027 REF		
$\theta$	0°	—	10°	0°	—	10°