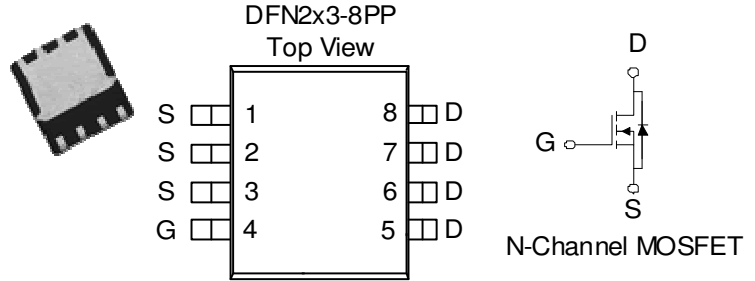


**N-Channel 80-V (D-S) MOSFET**

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 DFN2x3-8PP saves board space
- Fast switching speed
- High performance trench technology

PRODUCT SUMMARY		
$V_{DS}$ (V)	$r_{DS(on)}$ m( $\Omega$ )	$I_D$ (A)
80	82 @ $V_{GS} = 10V$	$\pm 5.4$
	115 @ $V_{GS} = 4.5V$	$\pm 4.6$



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ C$ UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Units
Drain-Source Voltage	$V_{DS}$	80	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current <sup>a</sup>	$I_D$	$T_A=25^\circ C$	$\pm 5.4$
		$T_A=70^\circ C$	$\pm 4.4$
Pulsed Drain Current <sup>b</sup>	$I_{DM}$	$\pm 25$	A
Continuous Source Current (Diode Conduction) <sup>a</sup>	$I_S$	2	A
Power Dissipation <sup>a</sup>	$P_D$	$T_A=25^\circ C$	3.5
		$T_A=70^\circ C$	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 <= 10 sec	35
		Steady State	81

Notes

- a. Surface Mounted on 1" x 1" FR4 Board.
- b. 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			
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = 20 V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 80 V, V <sub>GS</sub> = 0 V			1	uA
		V <sub>DS</sub> = 80 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55°C			10	
On-State Drain Current <sup>A</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> = 5 V, V <sub>GS</sub> = 10 V	20			A
Drain-Source On-Resistance <sup>A</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 4.6 A			86	mΩ
		V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 3.9 A			115	
Forward Transconductance <sup>A</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 15 V, I <sub>D</sub> = 4.6 A		11		S
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> = 2.0 A, V <sub>GS</sub> = 0 V		1.1		V
<b>Dynamic<sup>b</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 30 V, V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 4.6 A		3.6		nC
Gate-Source Charge	Q <sub>gs</sub>			1.8		
Gate-Drain Charge	Q <sub>gd</sub>			1.3		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = 30 V, R <sub>L</sub> = 30 Ω, I <sub>D</sub> = 1 A, V <sub>GEN</sub> = 10 V		9		nS
Rise Time	t <sub>r</sub>			10		
Turn-Off Delay Time	t <sub>d(off)</sub>			21		
Fall-Time	t <sub>f</sub>			8		

## Notes

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

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