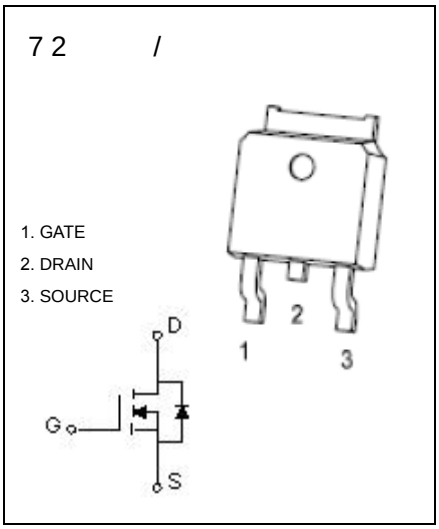
7 2 / 3 O D V W L F (Q F D S V X O D W H

& -8 1 N-Channel Power MOSFET



* H Q H U D O ' H V F U L S W L R Q

The high voltage MOSFET uses an advanced termination scheme to provide enhanced voltage-blocking capability without degrading performance over time. In addition , this advanced MOSFET is designed to withstand high energy in avalanche and commutation modes . The new energy efficient design also offers a drain-to-source diode with a fast recovery time. Designed for high voltage, high speed switching applications in power suppliers, converters and PWM motor controls , these devices are particularly well suited for bridge circuits where diode speed and commutating safe operating areas are critical and offer additional and safety margin against unexpected voltage transients.

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- z Robust High Voltage Termination
- z Avalanche Energy Specified
- z Source-to-Drain Diode Recovery Time Comparable to a Discrete Fast Recovery Diode
- z Diode is Characterized for Use in Bridge Circuits
- z I_{DSS} and $V_{DS(on)}$ Specified at Elevated Temperature

0 D [L P X P U D W L Q J V X Q 7 O H V V R W K H U Z L V H Q R W H G

3 D U D P H W H	\ P E R O	9D O X H 6	8 Q W
Drain-Source voltage	V_{DS}	600	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D	2	A
Pulsed Drain Current	I_{DM}	8	
Power Dissipation	P_D	1.25	W
Single Pulsed Avalanche Energy*	E_{AS}	128	mJ
Thermal Resistance from Junction to Ambient	R_{JA}	100	/ /W
Junction Temperature	T_J	150	/
Storage Temperature	T_{stg}	-50 ~+150	

*E_{AS} condition: T_j=25 / ,V_{DD}=50V,L=64mH,I_{AS}=2A,R_G=25 Ÿ

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3 D U D P H W H U	6 \ P E O	7 H V W &R Q G L W L R Q	0 L Q	7 \ S	0 D [	8 Q L W
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	600			V
Gate-Threshold Voltage (note1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	2.0		4.0	
Gate-Body Leakage Current (note1)	I_{GSS}	V_{DS} =0V, V_{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =600V, V_{GS} =0V			25	μA
Drain-Source On-State Resistance (note1)	$R_{DS(on)}$	V_{GS} =10V, I_D =1A			4.4	Ω
Forward Transconductance (note1)	g_{FS}	V_{DS} =50V, I_D =1A	1			S
Input Capacitance (note2)	C_{iss}	V_{DS} =25V,V_{GS} =0V, f =1MHz		435		pF
Output Capacitance (note2)	C_{oss}			56		
Reverse Transfer Capacitance (note2)	C_{rss}			9.2		
Turn-On Delay Time (note2)	$t_{d(on)}$	V_{DD}=300V,I_D=2A, V_{GS}=10V,R_G=18Ω		12		ns
Rise Time (note2)	t_r			21		
Turn-Off Delay Time (note2)	$t_{d(off)}$			30		
Fall Time (note2)	t_f			24		
Forward on Voltage(note1)	V_{SD}	V_{GS} =0V, I_S=2A			1.6	V

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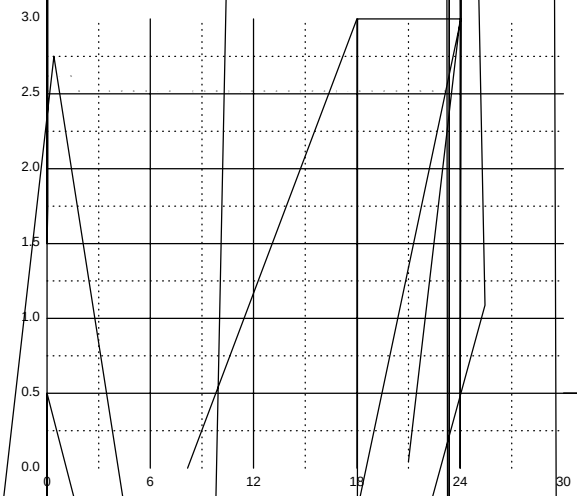
1. Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.
2. These parameters have no way to verify.


3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
6
12
18
24
30