
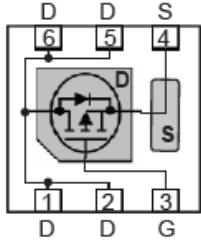
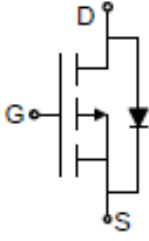


-12V P-Channel MOSFETs
Description

Features <ul style="list-style-type: none"> • $V_{DS} = -12V$, $I_D = -16A$ • $R_{DS(ON)} < 18m\Omega$ @ $V_{GS} = -4.5V$ $R_{DS(ON)} < 22m\Omega$ @ $V_{GS} = -2.5V$ • High Power and Current Handling Capability • Lead Free Product is Acquired • Surface Mount Package 	Application <ul style="list-style-type: none"> • PWM Applications • Load Switch • Power Management
Package <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p style="text-align: center;">DFN2x2-6L Pin configuration (Top view)</p>	

Absolute Maximum Ratings ($T_C = 25^\circ C$ unless otherwise specified)

Symbol	Parameter	Max.	Units
V_{DSS}	Drain-Source Voltage	-12	V
V_{GSS}	Gate-Source Voltage	± 12	V
I_D	Continuous Drain Current	$T_C = 25^\circ C$	-16
		$T_C = 100^\circ C$	-10
I_{DM}	Pulsed Drain Current ^{note1}	-65	A
P_D	Power Dissipation	18	W
$R_{\theta JC}$	Thermal Resistance, Junction to Ambient	6.9	$^\circ C/W$
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +150	$^\circ C$

Electrical Characteristics ($T_C=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D = -250\mu A$	-12	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = -12V, V_{GS} = 0V,$	-	-	-1	μA
I_{GSS}	Gate to Body Leakage Current	$V_{DS} = 0V, V_{GS} = \pm 12V$	-	-	± 100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4	-0.7	-1.0	V
$R_{DS(on)}$	Static Drain-Source on-Resistance <small>note2</small>	$V_{GS} = -4.5V, I_D = -6.7A$	-	14	18	m Ω
		$V_{GS} = -2.5V, I_D = -6.2A$	-	18	24	
g_{FS}	Forward Transconductance	$V_{DS} = -5V, I_D = -6.7A$	20	-	-	S
Dynamic Characteristics						
C_{iss}	Input Capacitance	$V_{DS} = -10V, V_{GS} = 0V,$ $f = 1.0MHz$	-	2700	-	pF
C_{oss}	Output Capacitance		-	680	-	pF
C_{rss}	Reverse Transfer Capacitance		-	590	-	pF
Q_g	Total Gate Charge	$V_{DS} = -6V, I_D = -10A,$ $V_{GS} = -4.5V$	-	35	48	nC
Q_{gs}	Gate-Source Charge		-	5	-	nC
Q_{gd}	Gate-Drain("Miller") Charge		-	10	-	nC
Switching Characteristics						
$t_{d(on)}$	Turn-on Delay Time	$V_{DD} = -10V, I_D = -1A,$ $R_{GEN}=10\Omega, V_{GS}=-4.5V$	-	11	-	ns
t_r	Turn-on Rise Time		-	35	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	30	-	ns
t_f	Turn-off Fall Time		-	10	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I_S	Maximum Continuous Drain to Source Diode Forward Current		-	-	-16	A
I_{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	-65	A
V_{SD}	Drain to Source Diode Forward Voltage	$V_{GS} = 0V, I_S = -8A$	-	-	-1.2	V

Notes: 1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature

 2. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

Typical Performance Characteristics

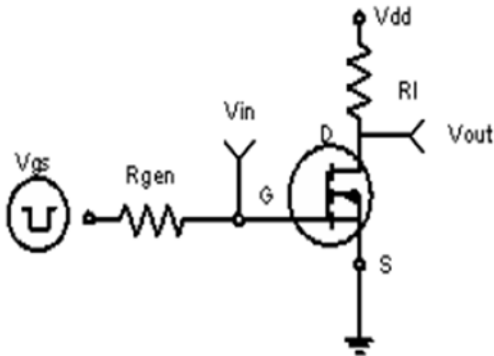


Figure1 :Switching Test Circuit

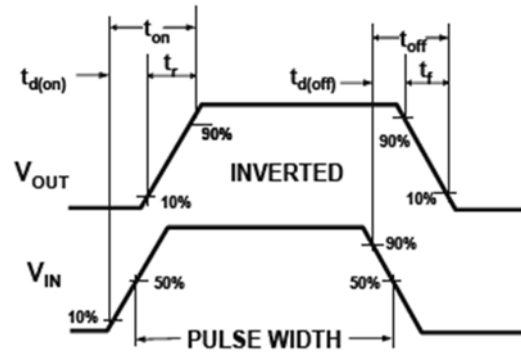
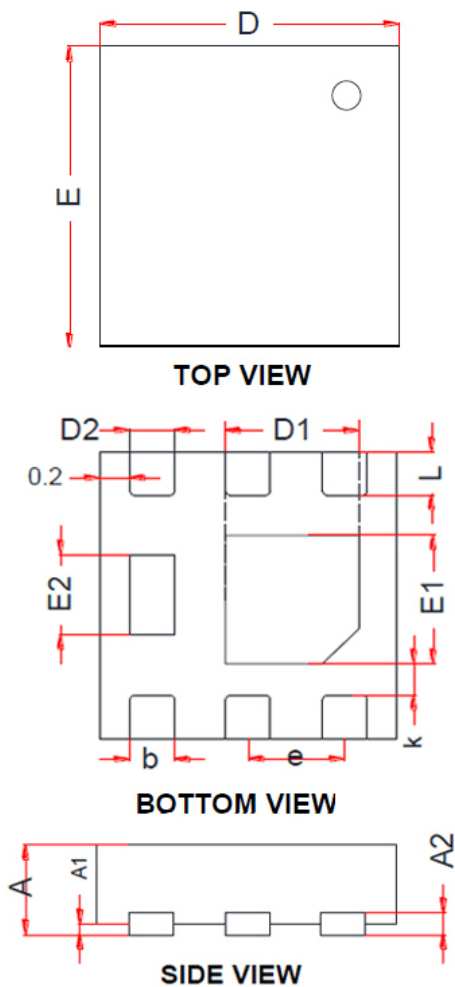


Figure2:Switching Waveforms

Package Mechanical Data



Symbol	Dimensions in millimeters		
	Min.	Typ.	Max.
A	0.70	0.75	0.85
A1	0.00	0.02	0.05
A2	0.20Ref.		
b	0.25	0.30	0.35
D	1.95	2.00	2.05
D1	0.85	0.90	0.95
D2	0.25	0.30	0.35
E	1.95	2.00	2.05
E1	0.75	0.80	0.85
E2	0.56Ref.		
e	0.65BSC.		
L	0.30	0.35	0.40
K	0.20	-	-

Package Information-DFN2x2-6L

OUTLINE	PACKAGE TYPE	QUANTITY REEL	DESCRIPTION
TAPING	DFN2x2-6L	3,000pcs	7 inch reel pack

Revision history

Date	Revision	Changes
28-May-2020	1.0	Initial release

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