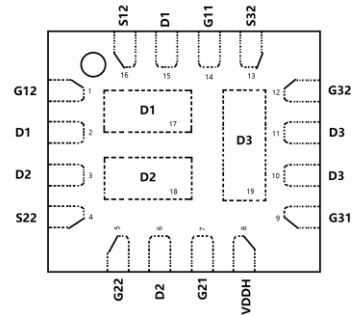
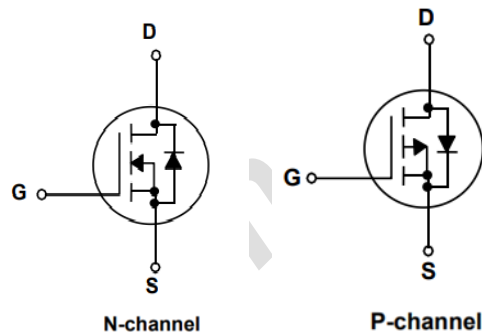


30V, 互补高密度沟道 MOSFET

Features

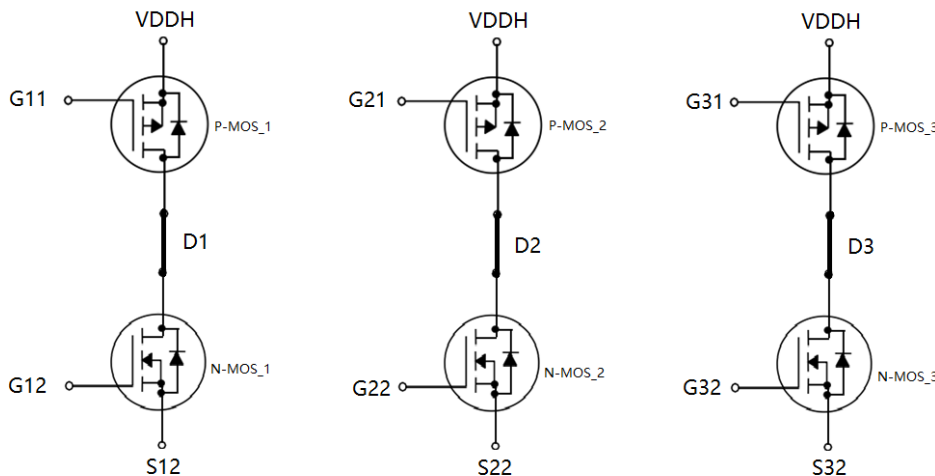
- **N-MOS**
 $V_{DS} = 30V$, $I_D = 3A$
 $R_{DS(on)Typ} = 29.5m\Omega @ V_{GS} = 10V$
 $R_{DS(on)Typ} = 44m\Omega @ V_{GS} = 4.5V$
- **P-MOS**
 $V_{DS} = -30V$, $I_D = -2.3A$
 $R_{DS(on)Typ} = 75m\Omega @ V_{GS} = -10V$
 $R_{DS(on)Typ} = 110m\Omega @ V_{GS} = -4.5V$
- **Very Low On-resistance $R_{DS(ON)}$**
- **Low C_{rss}**
- **Fast switching**
- **Improved dv/dt capability**
- **Six-MOSFET(3 N-MOS | 3 P-MOS)**



引脚定义

Application

- **PWM Application**
- **Load Switch**
- **Power Module**



Note: G: gate D: drain S: source

字母后第一个数字: 1 (MOS_1) 2 (MOS_2) 3 (MOS_3)

字母后第二个数字: 1 (P-MOS) 2 (N-MOS)

Absolute Maximum Ratings

Symbol	Parameter	Value		Units
		NMOS	PMOS	

V_{DSS}	Drain-Source Voltage	30	-30	V
I_D	Drain Current -Continuous($T_c = 25^\circ\text{C}$) -Continuous($T_c = 100^\circ\text{C}$)	3	-2	A
		1.9	-1.3	A
I_{DM}	Drain Current -Pulsed	12	-8	A
V_{GSS}	Gate-Source Voltage	± 20	± 20	V
P_D	Power Dissipation($T_C = 25^\circ\text{C}$)	1.2	0.63	W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	104	200	$^\circ\text{C}/\text{W}$
T_J, T_{STG}	Operation and Storage Temperature Range	-55 to +150	-55 to +150	$^\circ\text{C}$
T_L	Maximum lead temperature for soldering purposes, 1/8" from case for 5 seconds	300	300	$^\circ\text{C}$

N-MOS Key Electrical Characteristics

Parameter	Description	min	typ	max	Test Condition
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	30V	--	--	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$
$I_{D(\text{Device Ref})}$	Continuous Drain Current	--	--	3A	$T_J = 25^\circ\text{C}$
$R_{DS(on)(CP)}$	Static Drain-to-Source On-Resistance	--	25.5 m Ω	34 m Ω	$V_{GS} = 10\text{V}, I_D = 1.0\text{A}$
		--	40m Ω	53 m Ω	$V_{GS} = 4.5\text{V}, I_D = 1.0\text{A}$
$R_{DS(on)(FT)}$	Static Drain-to-Source On-Resistance	--	29.5 m Ω	39 m Ω	$V_{GS} = 10\text{V}, I_D = 3\text{A}$
		--	44 m Ω	59 m Ω	$V_{GS} = 4.5\text{V}, I_D = 2\text{A}$
$V_{GS(th)}$	Gate Threshold Voltage	1.0V	1.6V	2.2V	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$
I_{DSS}	Drain-to-Source Leakage Current	--	--	1 μA	$V_{DS} = 30\text{V}, V_{GS} = 0\text{V}, T_J = 25^\circ\text{C}$
I_{GSS}	Gate-to-Source leakage Current	--	--	$\pm 100\text{nA}$	$V_{GS} = \pm 20\text{V}$
C_{iss}	Input Capacitance	--	287pF	--	$V_{DS} = 15\text{V}, V_{GS} = 0\text{V}, f = 1.0\text{MHz}$
C_{oss}	Output Capacitance	--	40pF	--	
C_{rss}	Reverse Transfer Capacitance	--	30pF	--	
$T_{d(ON)}$	Turn-on Delay Time	--	5.5ns	--	$V_{GS} = 5\text{V}, V_{DS} = 10\text{V}, I_D = 3\text{A}, R_G = 6\Omega, R_L = 2.7\Omega$
T_r	Turn-on Rise Time	--	2.5ns	--	
$T_{d(OFF)}$	Turn-off Delay Time	--	18.5ns	--	
T_f	Turn-off Fall Time	--	15.5ns	--	

P-MOS Key Electrical Characteristics

Parameter	Description	min	typ	max	Test Condition
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	-30V	--	--	$V_{GS} = 0\text{V}, I_D = -250\mu\text{A}$
$I_{D(\text{Device Ref})}$	Continuous Drain Current	--	--	-2.3A	$T_J = 25^\circ\text{C}$
$R_{DS(on)(CP)}$	Static Drain-to-Source On-Resistance	--	64m Ω	87m Ω	$V_{GS} = -10\text{V}, I_D = -2.5\text{A}$
		--	91m Ω	125m Ω	$V_{GS} = -4.5\text{V}, I_D = -2.0\text{A}$
$R_{DS(on)(FT)}$	Static Drain-to-Source	--	70m Ω	92m Ω	$V_{GS} = -10\text{V}, I_D = -3\text{A}$

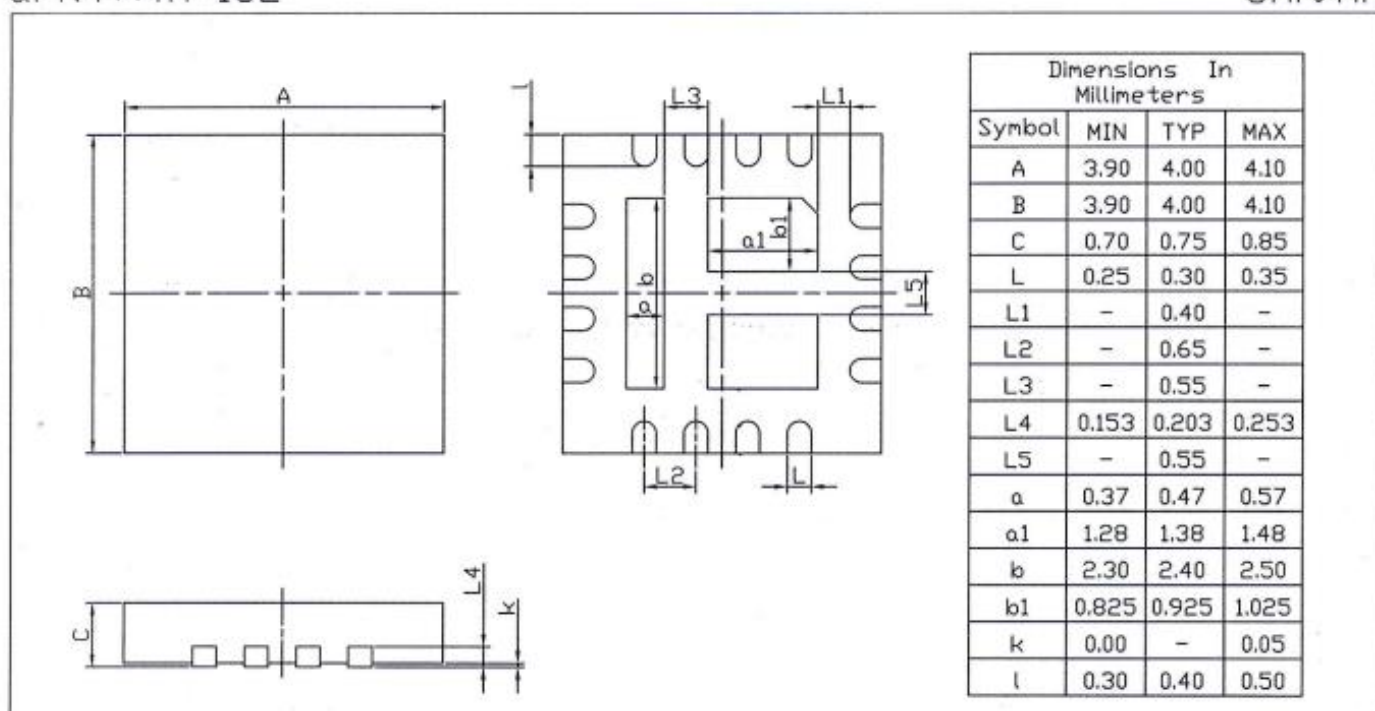
	On-Resistance	--	97mΩ	132mΩ	$V_{GS} = -4.5V, I_D = -2A$
$V_{GS(th)}$	Gate Threshold Voltage	-1.0V	-1.5V	-2.4V	$V_{DS} = V_{GS}, I_D = -250\mu A$
I_{DSS}	Drian-to-Source Leakage Current	--	--	-1.0uA	$V_{DS} = -30V, V_{GS} = 0V, T_J = 25^\circ C$
I_{GSS}	Gate-to-Source leakage Current	--	--	$\pm 100nA$	$V_{GS} = \pm 20V$
C_{iss}	Input Capacitance	--	275pF	--	$V_{DS} = -15V, V_{DS} = 0V, f = 1.0MHz$
C_{oss}	Output Capacitance	--	40pF	--	
C_{rss}	Reverse Transfer Capacitance	--	35pF	--	
$T_{d(ON)}$	Turn-on Delay Time	--	7ns	--	$V_{GS} = -10V, V_{DS} = -15V, I_D = -1A, R_G = 10\Omega$
T_r	Turn-on Rise Time	--	12ns	--	
$T_{d(OFF)}$	Turn-off Delay Time	--	10ns	--	
T_f	Turn-off Fall Time	--	8ns	--	

QFN4X4A-16L 封装信息

QFN4×4A-16L 外形尺寸图

QFN4 X4A-16L

Unit:mm



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