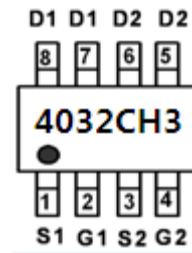
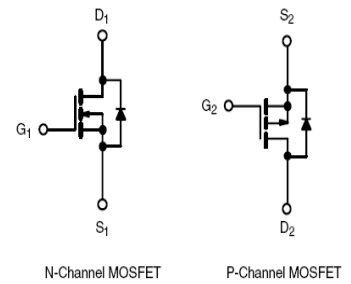


Main Product Characteristics:

	NMOS	PMOS
V_{DSS}	40V	-40V
$R_{DS(on)}$	16mohm(typ.)	25mohm(typ.)
I_D	6A	-4.5A



SOP-8
Bottom View



Schematic diagram

Features and Benefits:

- Advanced trench MOSFET process technology
- Special designed for buck-boost circuit, DSC, portable devices and general purpose applications
- Ultra low on-resistance with low gate charge
- 150°C operating temperature


Description:

It utilizes the latest trench processing techniques to achieve the high cell density and reduces the on-resistance with high repetitive avalanche rating. These features combine to make this design an extremely efficient and reliable device for use in buck-boost circuit, DSC, portable devices and a wide variety of others applications

Absolute max Rating:

Symbol	Parameter	Max.		Units
		N-channel	P-channel	
$I_D @ TC = 25^\circ C$	Continuous Drain Current, $V_{GS} @ 4.5V$ ①	6	-5	A
$I_D @ TC = 100^\circ C$	Continuous Drain Current, $V_{GS} @ 4.5V$ ①	4.2	-4	
I_{DM}	Pulsed Drain Current②	18.8	-12.5	
$P_D @ TC = 25^\circ C$	Power Dissipation③	2.1	1.8	W
V_{DS}	Drain-Source Voltage	40	-40	V
V_{GS}	Gate-to-Source Voltage	± 20	± 20	V
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to + 150	-55 to + 150	$^\circ C$

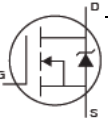
Thermal Resistance

Symbol	Characterizes	Typ.	Max.		Units
			N-channel	P-channel	
R _{θJA}	Junction-to-ambient (t ≤ 10s) ④	—	60	95	°C/W
	Junction-to-Ambient (PCB mounted, steady-state) ④	—	40	40	°C/W

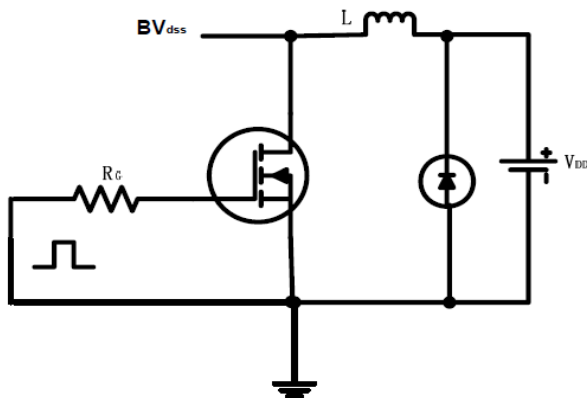
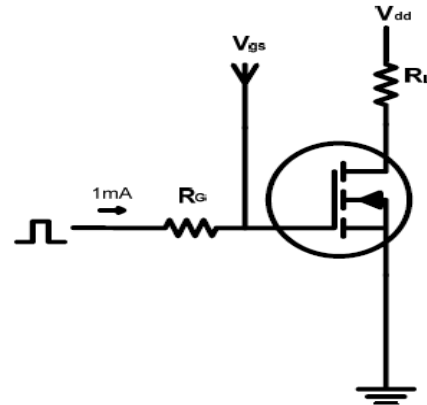
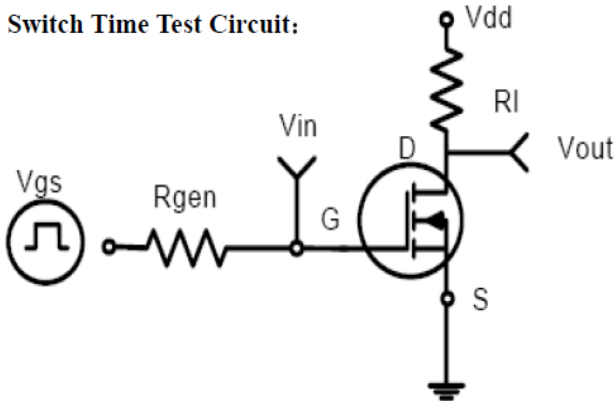
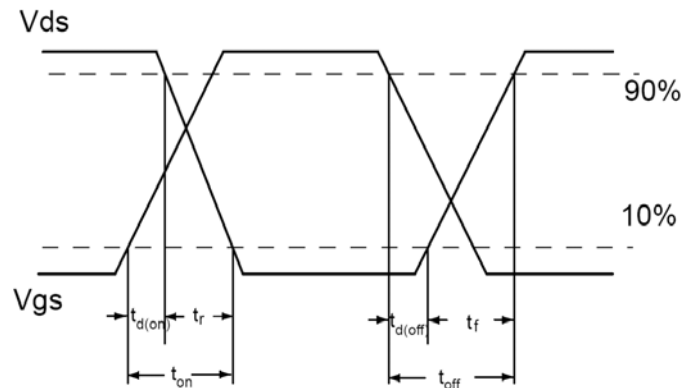
Electrical Characterizes @T_A=25°C unless otherwise specified

Symbol	Parameter		Min.	Typ.	Max.	Units	Conditions
V _{(BR)DSS}	Drain-to-Source breakdown voltage	N-channel	40	—	—	V	V _{GS} = 0V, I _D = 250μA
		P-channel	-40	—	—		V _{GS} = 0V, I _D = -250μA
R _{DS(on)}	Static Drain-to-Source on-resistance	N-channel	—	—	32	mΩ	V _{GS} =10V, I _D = 6A
		P-channel	—	—	42		V _{GS} =-10V, I _D = -5A
		N-channel	—	—	43		V _{GS} =4.5V, I _D = 5A
		P-channel	—	—	65		V _{GS} =-4.5V, I _D = -2A
V _{GS(th)}	Gate threshold voltage	N-channel	1	—	3	V	V _{DS} = V _{GS} , I _D = 250μA
		P-channel	1	—	3		T _J = 125°C
		N-channel	-1	—	-3		V _{DS} = V _{GS} , I _D = -250μA
		P-channel	-1	—	-3		T _J = 125°C
I _{DSS}	Drain-to-Source leakage current	N-channel	—	—	1	μA	V _{DS} = 40V, V _{GS} = 0V
		P-channel	—	—	-1		V _{DS} = -40V, V _{GS} = 0V
I _{GSS}	Gate-to-Source forward leakage	N-channel	—	—	100	nA	V _{GS} = 20V
		N-channel	—	—	-100		V _{GS} = -20V
		P-channel	—	—	100		V _{GS} = 20V
		P-channel	—	—	-100		V _{GS} = -20V

Source-Drain Ratings and Characteristics

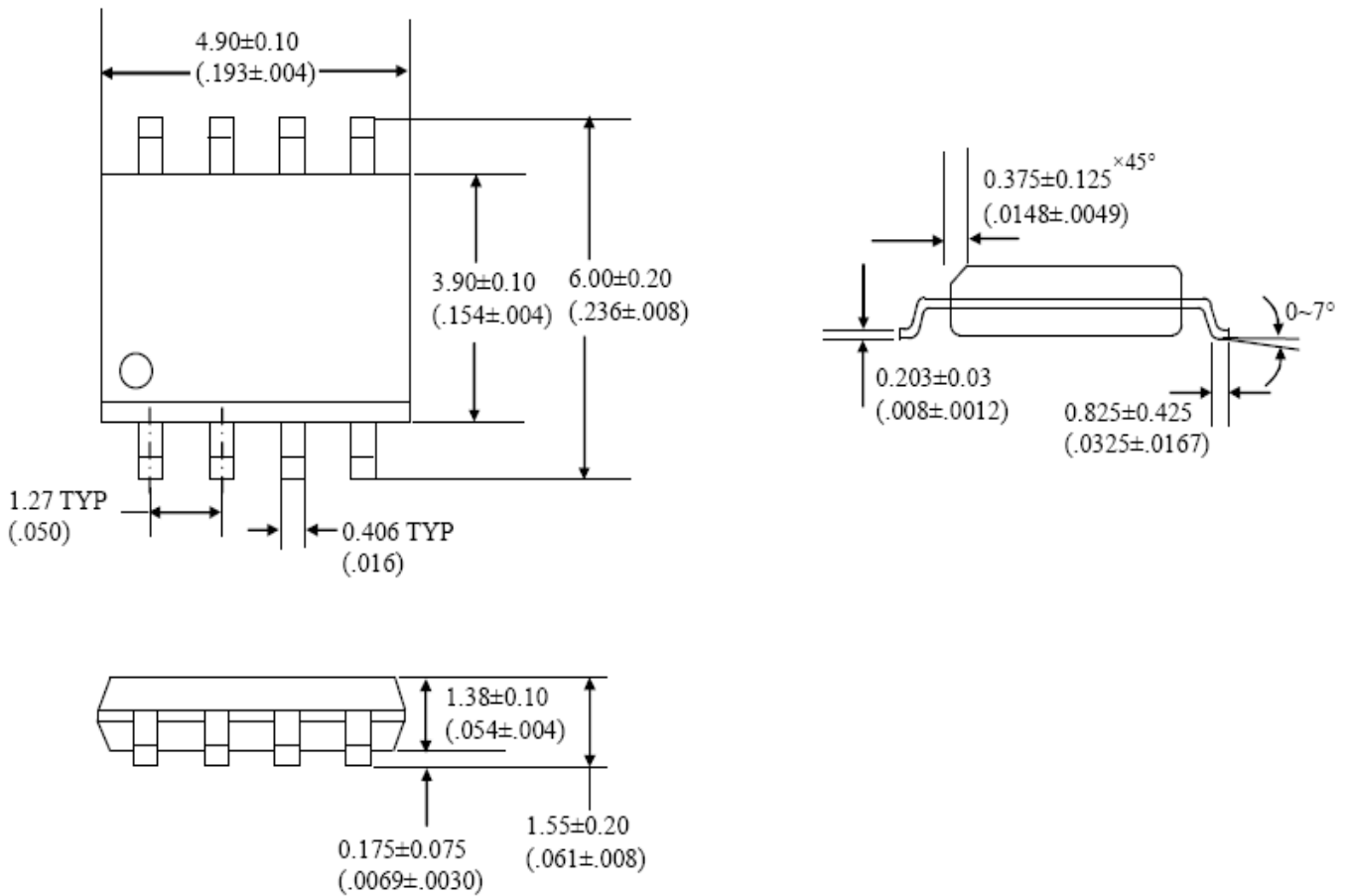
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
I _S	Continuous Source Current (Body Diode)	—	—	6	A	MOSFET symbol showing the integral reverse p-n junction diode. 
		—	—	-5		
I _{SM}	Pulsed Source Current (Body Diode)	—	—	18.8	A	
		—	—	-12.5		
V _{SD}	Diode Forward Voltage	—	0.82	1.2	V	I _S =2.4A, V _{GS} =0V
		—	-0.84	-1.2		I _S =-1.5A, V _{GS} =0V

Test circuits and Waveforms

EAS test circuits:

Gate charge test circuit:

Switch Time Test Circuit:

Switch Waveforms:

Notes:

- ① The maximum current rating is limited by bond-wires.
- ② Repetitive rating; pulse width limited by max. junction temperature.
- ③ The power dissipation PD is based on max. junction temperature, using junction-to-ambient thermal resistance.
- ④ The value of $R_{\theta JA}$ is measured with the device mounted on 1in 2 FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ C$

Mechanical Data:



NOTES:

1. All dimensions are in millimeters.
2. Tolerance ± 0.10 mm (4 mil) unless otherwise specified
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 5 mils.
4. Dimension L is measured in gauge plane.
5. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.

Ordering and Marking Information

Device Marking: 4032CH3**Package (Available)****SOP-8****Operating Temperature Range****C : -55 to 150 °C****Devices per Unit**

Package Type	Units/Tape	Tapes/Inner Box	Units/Inner Box	Inner Boxes/Carton Box	Units/Carton Box
SOP-8	2500	2	5000	8	40000

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