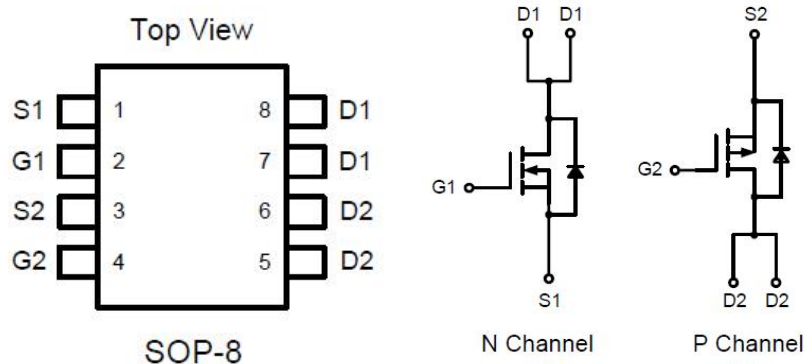




GENERAL DESCRIPTION

The RZC4606B uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. The complementary MOSFETs may be used to form a level shifted high side switch, and for a host of other applications.

PIN CONFIGURATION



FEATURES

- N-Channel
40V/20A,
 $R_{DS(ON)}=24m\Omega$ (typ.) @ $V_{GS}=10V$
 $R_{DS(ON)}=34m\Omega$ (typ.) @ $V_{GS}=4.5V$
- P-Channel
-40V/-15A,
 $R_{DS(ON)}=42m\Omega$ (typ.) @ $V_{GS}= -10V$
 $R_{DS(ON)}=70m\Omega$ (typ.) @ $V_{GS}=-4.5V$
- Super High Dense Cell Design
- Reliable and Rugged

APPLICATIONS

- Power Management in Notebook Computer
- Car Charger
- Wireless Charger
- Portable Equipment
- Battery Powered Systems

ORDERING INFORMATION

Part Number	Package	Top Marking	Packing
RZC4606B	SOP-8	4606B	3000PCS/Real

**MAXIMUM RATINGS** ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value		Units	
		N	P		
Drain to Source Voltage	V_{DSS}	40	-40	V	
Gate to Source Voltage	V_{GSS}	± 20	± 20	V	
Continuous Drain Current	I_D	25 $^\circ\text{C}$	20	-15	A
		85 $^\circ\text{C}$	16	-12	A
Pulsed Drain Current	$I_{D(pulse)}$	80	-60	A	
Maximum Power Dissipation	$P_D(25^\circ\text{C})$	2		W	
Operating Junction Temperature	T_J	+150		$^\circ\text{C}$	
Storage Temperature	T_{STG}	-55-+150		$^\circ\text{C}$	
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260		$^\circ\text{C}$	

**ELECTRICAL CHARACTERISTICS** (TA = 25°C)

N-Channel

Parameter	Symbol	Test Conditions	MIN	TYP	MAX	Units
Drain-Source Breakdown Voltage	BVDSS	V _{GS} =0V, I _{DS} =250uA	40			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30V, V _{GS} =0V			1	uA
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
Gate threshold voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250μA	1.0	2.0	3.0	V
Drain to Source On-state Resistance	R _{DS(on)}	V _{GS} =10V, I _D =1.0A		24	30	mΩ
		V _{GS} = 4.5V, I _D =1.0A		34	40	mΩ
Drain-Source Diode Forward Voltage	V _{SD}	I _S =1.0A, V _{GS} =0V		0.8	1.3	V
Input Capacitance	C _{ISS}	V _{DS} =40V , V _{GS} =0V , f=1MHz		840		pF
Output Capacitance	C _{OSS}				92	pF
Reverse Transfer Capacitance	C _{RSS}				60	pF
Total Gate Charge	Q _G	V _{DS} =0V , V _{GS} =10V , I _D =3A		15		nC
Gate-Source Charge	Q _{GS}				2.5	nC
Gate-Drain Charge	Q _{GD}				4.5	nC



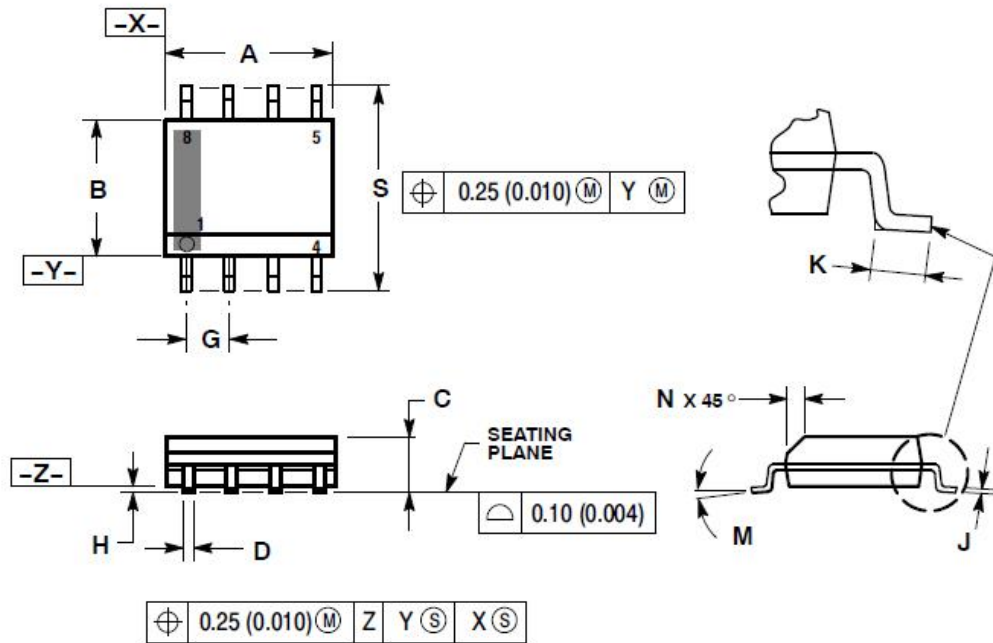
P-Channel

Parameter	Symbol	Test Conditions	MIN	TYP	MAX	Units
Drain-Source Breakdown Voltage	BVDSS	$V_{GS}=0V, I_{DS}=250\mu A$	-40			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$			-1	μA
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 25V, V_{DS}=0V$			± 100	nA
Gate threshold voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	-1.0	-2.0	-3.0	V
Drain to Source On-state Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-1.0A$		42	50	$m\Omega$
		$V_{GS}=-4.5V, I_D=-1.0A$		65	75	$m\Omega$
Drain-Source Diode Forward Voltage	V_{SD}	$I_S=-2.0A, V_{GS}=0V$		-0.7	-1.3	V
Input Capacitance	C_{ISS}	$V_{DS}=-40V, V_{GS}=0V, f=1MHz$		850		pF
Output Capacitance	C_{OSS}			170		pF
Reverse Transfer Capacitance	C_{RSS}			110		pF
Total Gate Charge	Q_G	$V_{DS}=-40V, V_{GS}=-10V, I_D=-3A$		19		nC
Gate-Source Charge	Q_{GS}			3		nC
Gate-Drain Charge	Q_{GD}			4		nC

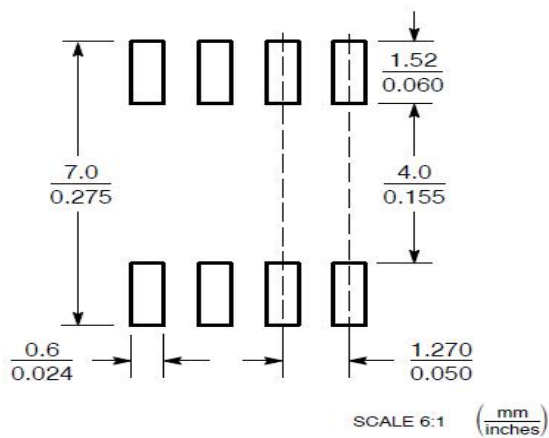


PACKAGE DIMENSIONS

SOP-8



SOLDERING FOOTPRINT*



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.197
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0 °	8 °	0 °	8 °
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244