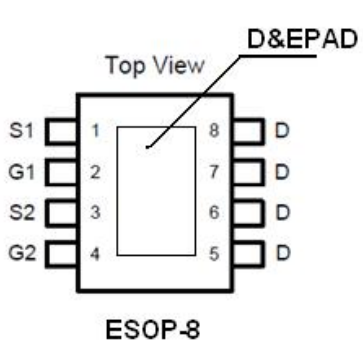
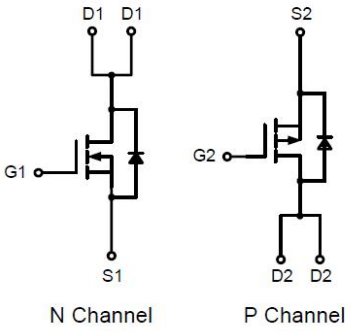
GENERAL DESCRIPTION

The RZC4606DE 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
  30V/8A,
  $R_{DS(ON)}$=18mΩ (MAX.) @ V_{GS}=10V
  $R_{DS(ON)}$=28mΩ (MAX.) @ V_{GS}=4.5V
- P-Channel
  -30V/-8A,
  $R_{DS(ON)}$=32mΩ (MAX.) @ V_{GS}= -10V
  $R_{DS(ON)}$=56mΩ (MAX.) @ V_{GS}=-4.5V
- Super High Dense Cell Design
- Reliable and Rugged

APPLICTIONS

- Power Management in Notebook Computer
- Portable Equipment
- Battery Powered Systems

ORDERING INFORMATION

Part Number	Package	Top Marking	Packing
RZC4606DE	ESOP-8	4606DE	3000PCS/Real

MAXIMUM RATINGS (Ta = 25℃)

Parameter	Symbol		Value		Units
			N	P	
Drain to Source Voltage	V_{DSS}		30	-30	V
Gate to Source Voltage	V_{GSS}		±20	±20	V
Continuous Drain Current	I_D	25℃	8	-8	A
		85℃	6.4	-6.4	A
Pulsed Drain Current	$I_{D(pulse)}$		30	-30	A
Maximum Power Dissipation	$P_{D(25℃)}$		1.5		W
Operating Junction Temperature	T_J		+150		℃
Storage Temperature	T_{STG}		-55-+150		℃
Lead Temperature for Soldering Purposes(1/8″ from case for 10 s)	T_L		260		°C

ELECTRICAL CHARACTERISTICS (TA = 25℃)

N-Channel

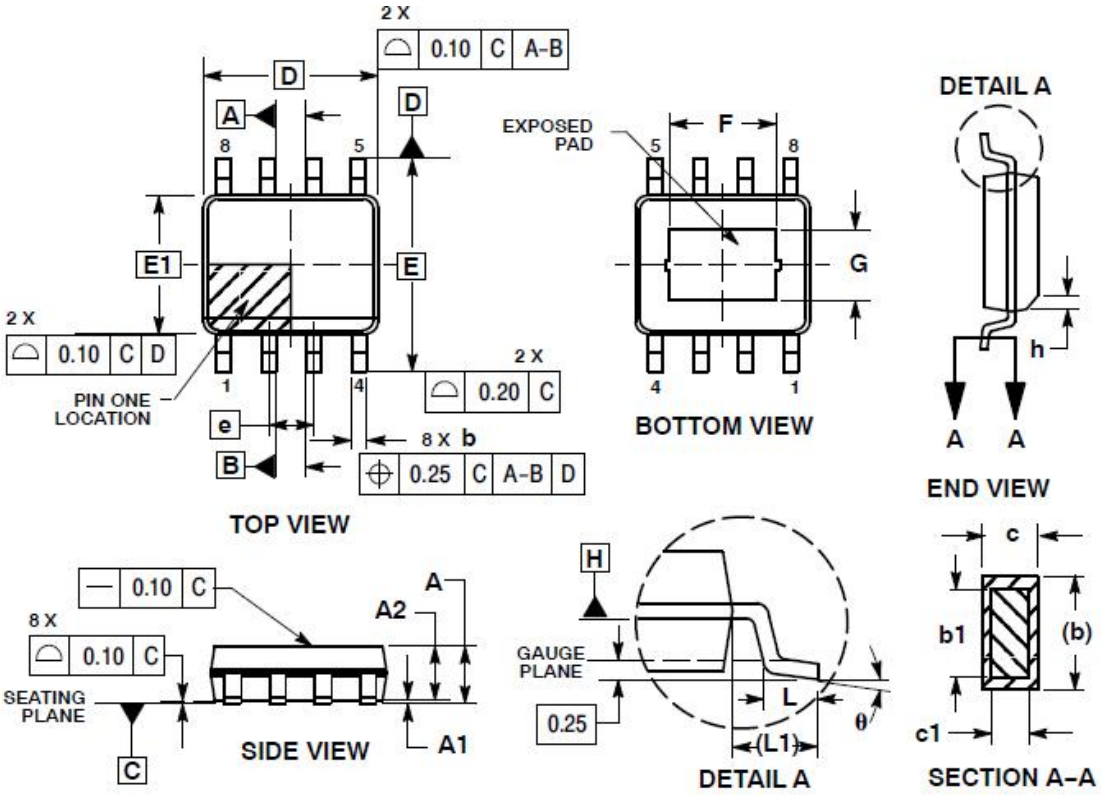
Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX	Units
Drain-Source Breakdown Voltage	BVDSS	V_{GS}=0V, I_{DS}=250uA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}= 30V,V_{GS}=0V			1	uA
Gate Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V			±100	nA
Gate threshold voltage	V_{GS}(th)	V_{DS}=V_{GS},I_D= 250μA			2.5	V
Drain to Source On-state Resistance	$R_{DS(on)}$	V_{GS}= 10V,I_D= 3.0A		15	18	mΩ
		V_{GS}= 4.5V,I_D= 3.0A		25	28	mΩ
Drain-Source Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V		0.8	1.3	V
Input Capacitance	Ciss	V_{DS}=30V , V_{GS}=0V , f=1MHz		570		pF
Output Capacitance	Coss			80		pF
Reverse Transfer Capacitance	Crss			65		pF
Total Gate Charge (10V)	Qg	V_{DS}=30V , V_{GS}=10V , I_D=3A		5.0		nC
Gate-Source Charge	Qgs			1.1		nC
Gate-Drain Charge	Qgd			2.6		nC

P-Channel

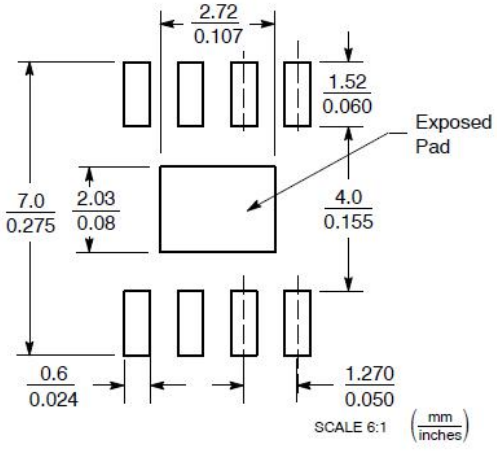
Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX	Units
Drain-Source Breakdown Voltage	BVDSS	V_{GS}=0V, I_{DS}=-250uA	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V,V_{GS}=0V			-1	uA
Gate Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V			±100	nA
Gate threshold voltage	V_{GS}(th)	V_{DS}=V_{GS},I_D=-250μA	-1.5	-2.0	-2.5	V
Drain to Source On-state Resistance	$R_{DS(on)}$	V_{GS}=-10V,I_D=-3.0A		28	32	mΩ
		V_{GS}=-4.5V,I_D=-3.0A		50	56	mΩ
Drain-Source Diode Forward Voltage	V_{SD}	I_S=-1A,V_{GS}=0V	-2.5	-2.0	-1.5	V
Input Capacitance	Ciss	V_{DS}=-30V , V_{GS}=0V , f=1MHz		922		pF
Output Capacitance	Coss			150		pF
Reverse Transfer Capacitance	Crss			122		pF
Total Gate Charge (10V)	Qg	V_{DS}=-30V , V_{GS}=-10V , I_D=-3A		9.6		nC
Gate-Source Charge	Qgs			2.2		nC
Gate-Drain Charge	Qgd			3.3		nC

PACKAGE DIMENSIONS

ESOP-8



SOLDERING FOOTPRINT



DIM	MILLIMETERS MIN	MAX
A	1.35	1.75
A1	0.00	0.10
A2	1.35	1.65
b	0.31	0.51
b1	0.28	0.48
c	0.17	0.25
c1	0.17	0.23
D	4.90 BSC	
E	6.00 BSC	
E1	3.90 BSC	
e	1.27 BSC	
L	0.40	1.27
L1	1.04 REF	
F	2.24	3.20
G	1.55	2.51
h	0.25	0.50
θ	0 °	8 °