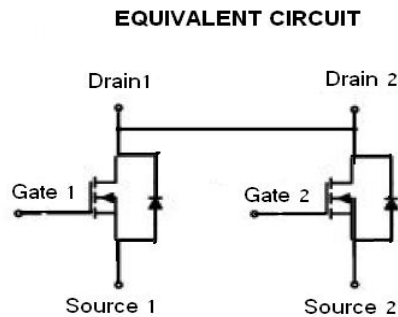
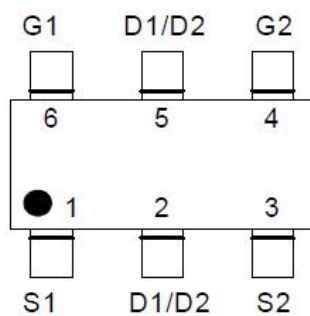




## GENERAL DESCRIPTION

The RZC8808S is a dual N-channel MOS Field Effect Transistor which uses advanced trench technology to provide excellent  $R_{DS(on)}$ , low gate charge and operation with low gate voltages. This device is suitable for use as a load switch.

## PIN CONFIGURATION



## FEATURES

- $V_{DS(max)} = 19V$ ;
- $I_{D(max)} = 5.0A$ ;
- Low on-state resistance  
 $R_{DS(on)} = 16m\Omega$  TYP. ( $V_{GS} = 4.5V$ )  
 $R_{DS(on)} = 22m\Omega$  TYP. ( $V_{GS} = 2.5V$ )
- Lead free product is acquired;
- Surface Mount Package;

## APPLICATIONS

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

## ORDERING INFORMATION

Part Number	Package	Top Marking	Packing
RZC8808S	SOT23-6	8808S	3000PCS/Real

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

Parameter	Symbol	Value	Units	
Drain to Source Voltage	$V_{DSS}$	19	V	
Gate to Source Voltage	$V_{GSS}$	$\pm 10$	V	
Continuous Drain Current	$25^\circ\text{C}$	Id	5.0	A
	$85^\circ\text{C}$		4.0	A
Pulsed Drain Current	$I_D(\text{pulse})$	25	A	
Maximum Power Dissipation	$25^\circ\text{C}$ PD	1.25	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** ( $T_A = 25^\circ\text{C}$ )

Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX	Units
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_{DS}=250\mu A$	19			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=19V, V_{GS}=0V$ $T_J=25^\circ\text{C}$			1	$\mu A$
Gate Leakage Current	$I_{GSS}$	$V_{GS}=\pm 10V, V_{DS}=0V$			$\pm 100$	nA
Gate threshold voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	0.65	1.1	V
Drain to Source On-state Resistance <sub>(note 2)</sub>	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=5A$		16	21	$m\Omega$
		$V_{GS}=2.5V, I_D=4A$		21	29	$m\Omega$
Input Capacitance	$C_{ISS}$	$V_{DS}=10V,$ $V_{GS}=0V, f=1MHz$		559		pF
Output Capacitance	$C_{OSS}$			109		
Reverse Transfer Capacitance	$C_{RSS}$			88		
Total Gate Charge (10V)	$Q_G$	$V_{DD}=10V,$ $V_{GS}=4.5V, I_D=5A,$		8.8		nC
Gate-Source Charge	$Q_{GS}$			4		
Gate-Drain Charge	$Q_{GD}$			4		
Turn-On Delay Time	$T_{d(on)}$	$V_{DD}=10V,$ $V_{GS}=4.5V$ $R_G=6\Omega, I_D=1A$		11		nS
Rise Time	$T_r$			12		
Turn-Off Delay Time	$T_{d(off)}$			36		
Fall Time	$T_f$			32		
Drain-Source Diode Forward Voltage	$V_{SD}$	$I_S=1A, V_{GS}=0V$			1.0	V
Continuous Source Current	$I_S$	$V_G=V_D=0V,$ Force Current			2	A



**TYPICAL CHARACTERISTICS**

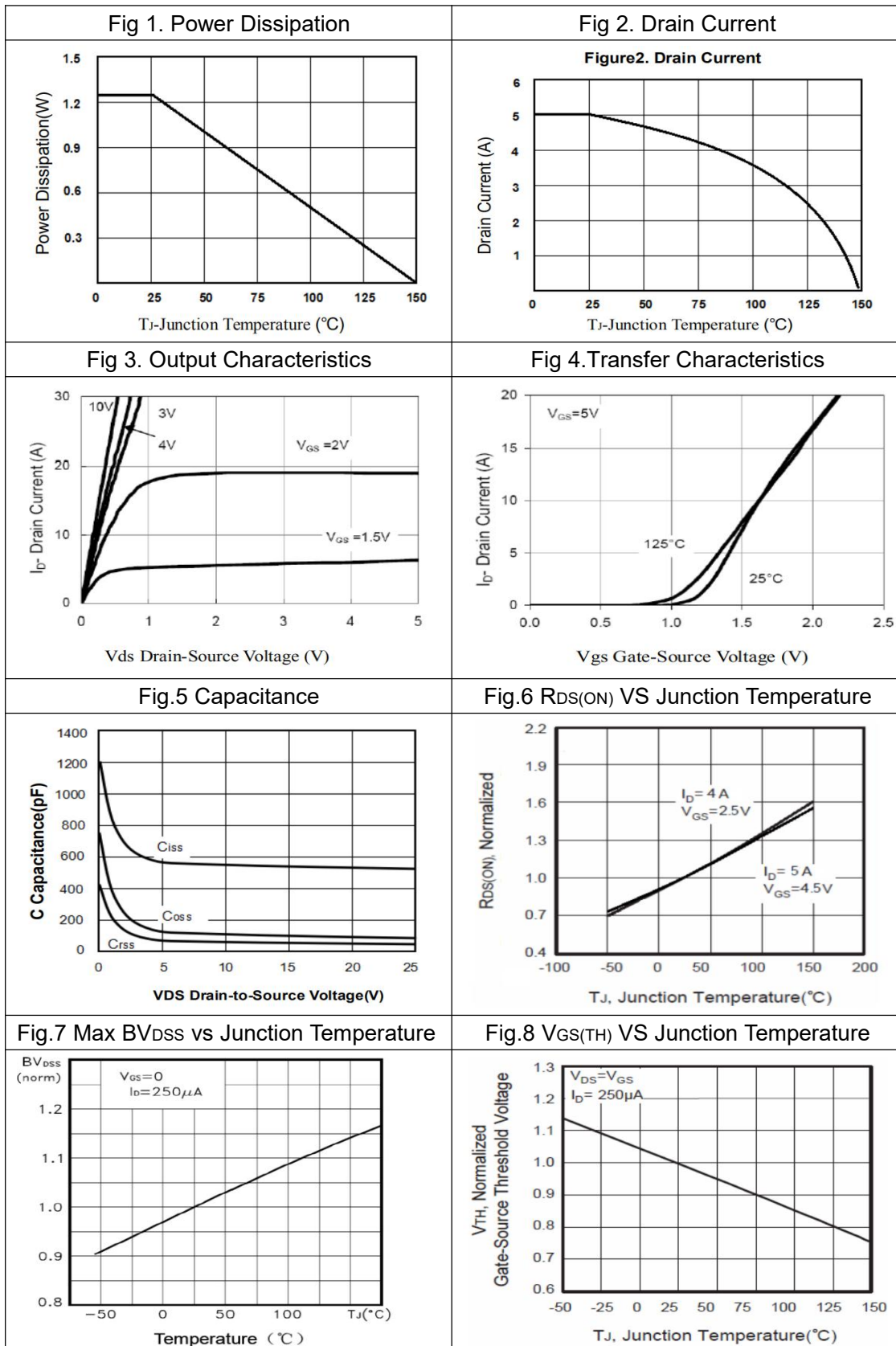




Figure9. Gate Charge Waveform

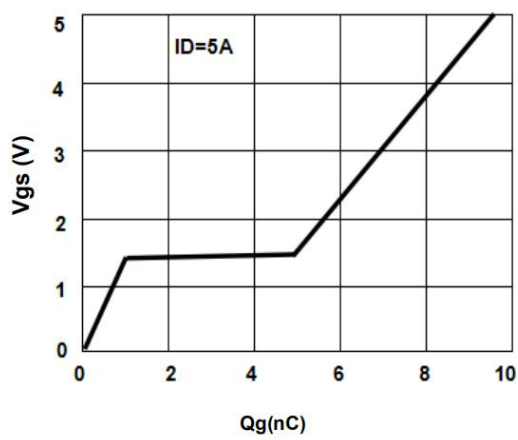


Figure10. Maximum Safe Operating Area

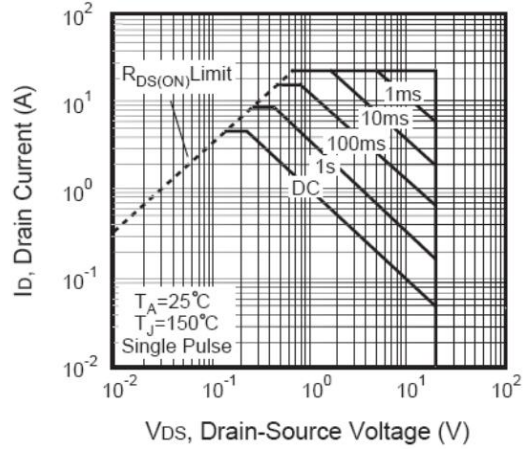
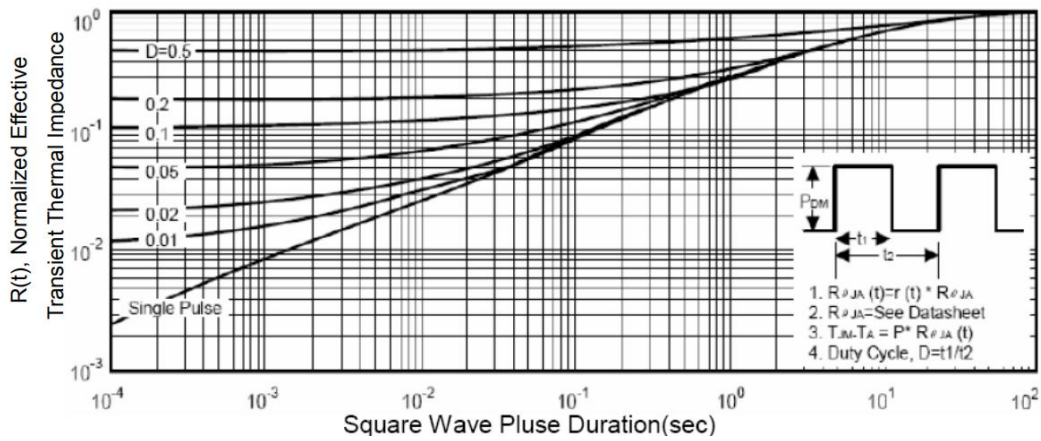


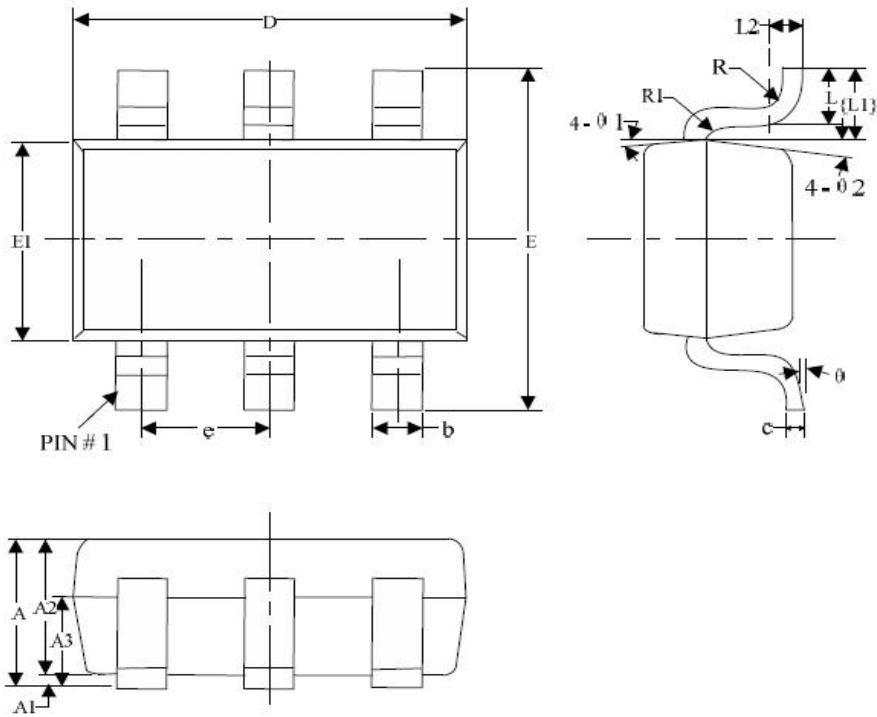
Fig.11 Normalized Maximum Transient Thermal Impedance





PACKAGE DIMENSIONS

SOT23-6



Dimensions (unit: mm)

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	-	-	1.30	e	0.85	0.95	1.05
A1	0	-	0.15	L	0.35	0.45	0.60
A2	0.90	1.10	1.30	L1	0.59REF		
A3	0.60	0.65	0.70	L2	0.25BSC		
b	0.39	-	0.49	R	0.05	-	-
c	0.12	-	0.19	R1	0.05	-	0.02
D	2.85	2.95	3.15	$\theta$	$0^\circ$	-	$8^\circ$
E	2.60	2.80	3.00	$\theta1$	$3^\circ$	$5^\circ$	$7^\circ$
E1	1.55	1.65	1.75	$\theta2$	$6^\circ$	$8^\circ$	$10^\circ$