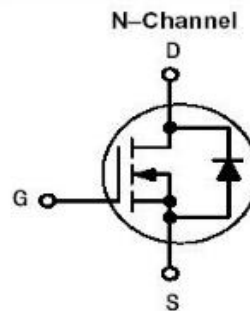
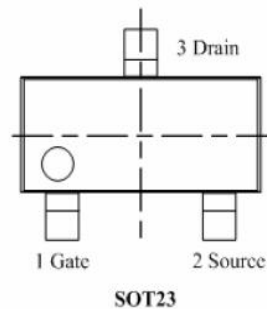




GENERAL DESCRIPTION

The RZC2302 uses advanced trench technology to provide excellent $R_{DS(on)}$ and low gate charge. This device is suitable for used as a load switch or in Pulse width modulation applications.

PIN CONFIGURATION



FEATURES

- $V_{DS(max)} = 20V$;
- $I_{D(max)} = 5.0A$
- Low on-state resistance
 $R_{DS(on)} = 23m\Omega$ TYP. ($V_{GS} = 4.5V$)
 $R_{DS(on)} = 27m\Omega$ TYP. ($V_{GS} = 2.5V$)

APPLICATIONS

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

ORDERING INFORMATION

Part Number	Package	Top Marking	Packing
RZC2302	SOT-23	2302	3000PCS/Real

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

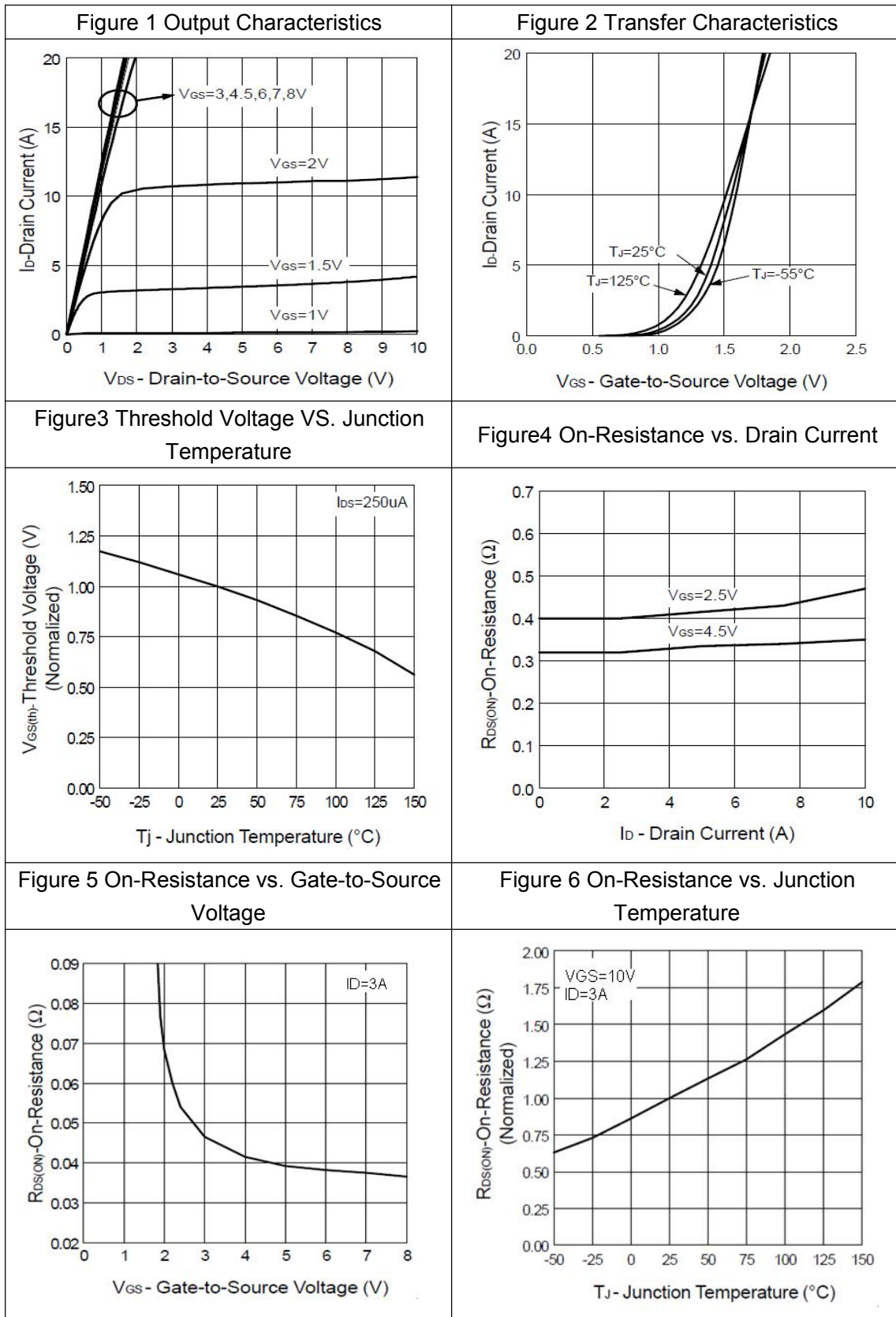
Parameter	Symbol	Value	Units	
Drain to Source Voltage	V_{DSS}	20	V	
Gate to Source Voltage	V_{GSS}	± 12	V	
Continuous Drain Current	25°C	I_D	5	A
	85°C		4	A
Pulsed Drain Current	$I_{D(pulse)}$	16	A	
Maximum Power Dissipation	25°C	P_D	0.85	W
Operating Junction Temperature	T_J	+150	$^\circ\text{C}$	
Storage Temperature	T_{STG}	-55-+150	$^\circ\text{C}$	
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^\circ\text{C}$	

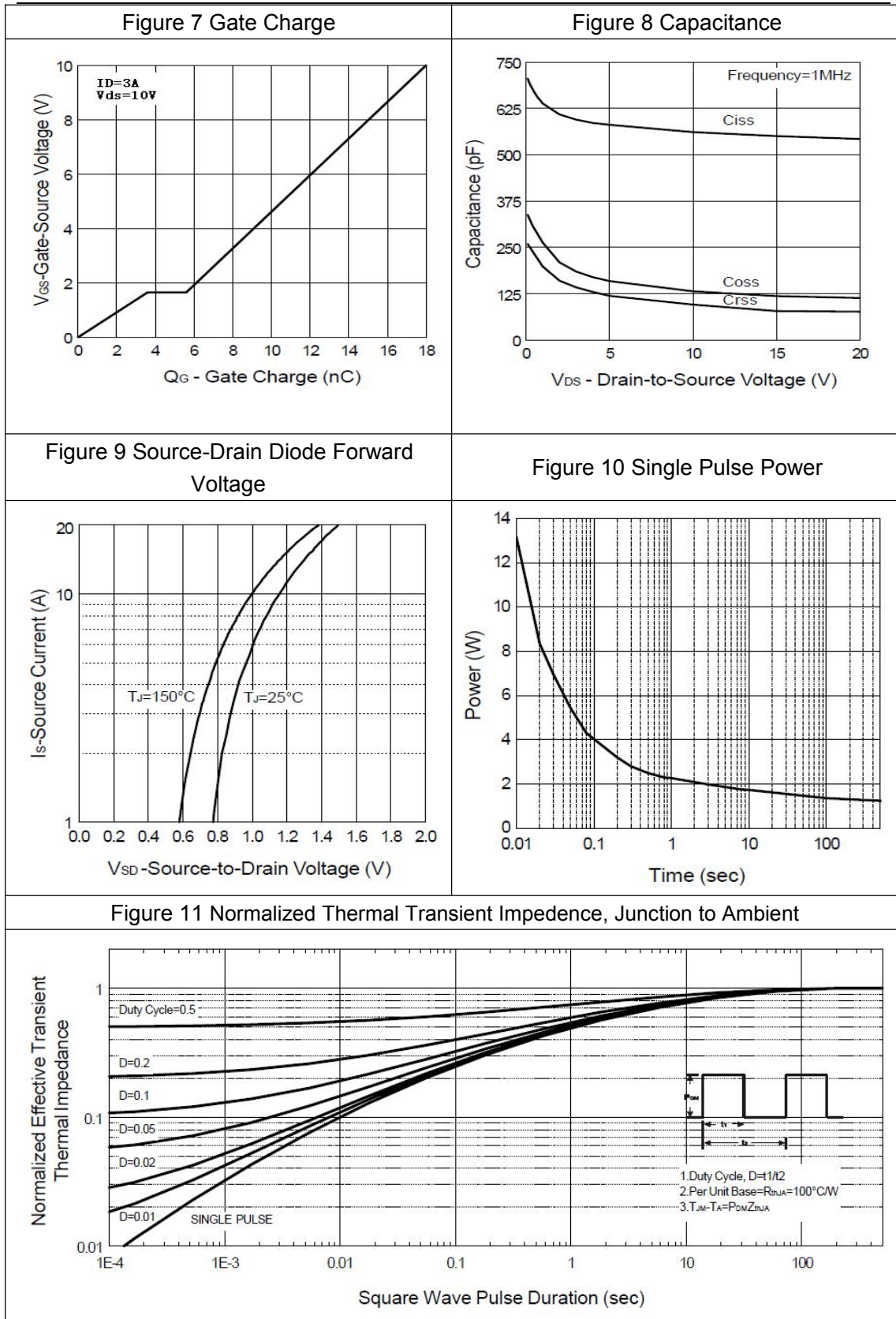
**ELECTRICAL CHARACTERISTICS** (TA = 25°C)

Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Units
Drain-Source Breakdown Voltage	BVDSS	V _{GS} =0V, I _{DS} =250uA	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20V, V _{GS} =0V			1.0	uA
Gate Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V			±100	nA
Gate threshold voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D = 250μA	0.5	0.7	1.0	V
Drain to Source On-state Resistance	R _{DS(ON)}	V _{GS} = 4.5V, I _D =3.0A		23	25	mΩ
		V _{GS} = 2.5V, I _D =2.0A		27	35	mΩ
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =15V, f=1.0MHZ		550		pF
Output Capacitance	C _{oss}			120		pF
Reverse Transfer Capacitance	C _{rss}			80		pF
Turn-on Delay Time	t _{d(on)}	V _{DD} =10V, I _{DS} =1.0A, V _{GS} =4.5V, R _G =0.2Ω		8.0	14	nS
Rise Time	t _r			6.0	12	nS
Turn-off Delay Time	t _{d(off)}			19	45	nS
Fall Time	t _f			7.0	23	nS
Total Gate Charge	Q _G	V _{DD} =10V, I _D =1.0A, V _{GS} =4.5V,		10	12	nC
Gate to Source Charge	Q _{GS}			3.6		nC
Gate to Drain Charge	Q _{GD}			2.0		nC
Drain-Source Diode Forward Voltage	V _{SD}	I _S =2.8A, V _{GS} =0V			1.2	V



TYPICAL CHARACTERISTICS (25°C unless noted)

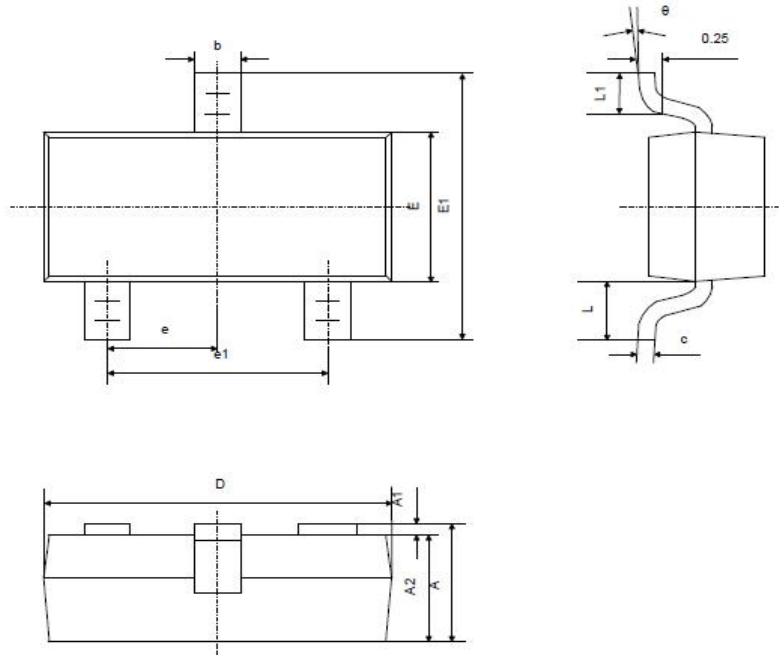






PACKAGE DIMENSIONS

SOT-23



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.889	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	6°

Note:

1. Dimension D does not include mold flash, protrusions or gate burrs. mold flash, protrusions or gate burrs shall not exceed 0.10mm per side.
2. Dimension E1 does not include inter-lead flash or protrusion. Inter-lead flash or protrusion shall not exceed 0.1mm per side.