

1. TYPE RZM002P02  
 2. STRUCTURE SILICON P-CHANNEL MOS FET  
 3. APPLICATIONS SWITCHING  
 4. ABSOLUTE MAXIMUM RATINGS [Ta=25°C]

DRAIN-SOURCE VOLTAGE		$V_{DSS}$	• • •	-20V
GATE-SOURCE VOLTAGE		$V_{GSS}$	• • •	±10V
DRAIN CURRENT	CONTINUOUS	$I_D$	• • •	±200mA
	PULSED	$I_{DP}$	• • •	±800mA PW ≤ 10 μs DUTY CYCLE ≤ 1%
SOURCE CURRENT	CONTINUOUS	$I_S$	• • •	-100mA
(BODY DIODE)	PULSED	$I_{SP}$	• • •	-800mA PW ≤ 10 μs DUTY CYCLE ≤ 1%
TOTAL POWER DISSIPATION		$P_D$	• • •	150mW EACH TERMINAL MOUNTED ON A RECOMMENDED LAND
CHANNEL TEMPERATURE		$T_{ch}$	• • •	150°C
RANGE OF STORAGE TEMPERATURE		$T_{stg}$	• • •	-55~150°C

5. THERMAL RESISTANCE

CHANNEL TO AMBIENT	$R_{th(ch-a)}$	• • •	833°C/W EACH TERMINAL MOUNTED ON A RECOMMENDED LAND
--------------------	----------------	-------	---

DESIGN <i>J. Mizushima</i>	CHECK <i>A. Tsubaki</i>	APPROVAL <i>T. Honda</i>	DATE : 05/JAN/2009	SPECIFICATION No. TSQ03101H-RZM002P02
			REV. : 0	<b>ROHM Co.,Ltd.</b>

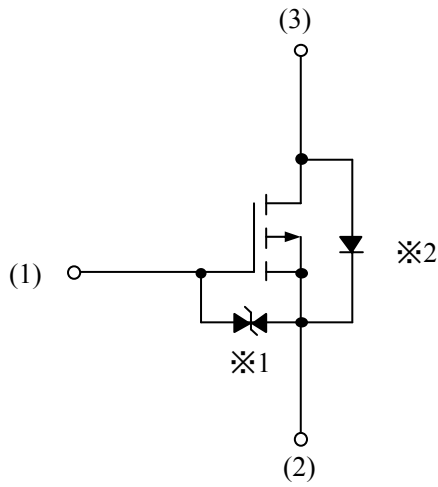
## 6.ELECTRICAL CHARACTERISTICS [Ta=25°C]

PARAMETER	ITEM	CONDITION	MIN.	TYP.	MAX.
GATE-SOURCE LEAKAGE	$I_{GSS}$	$V_{GS}=\pm 10V/V_{DS}=0V$	—	—	$\pm 10 \mu A$
DRAIN-SOURCE BREAKDOWN VOLTAGE	$V_{(BR)DSS}$	$I_D=-1mA/V_{GS}=0V$	-20V	—	—
ZERO GATE VOLTAGE DRAIN CURRENT	$I_{DSS}$	$V_{DS}=-20V/V_{GS}=0V$	—	—	-1 $\mu A$
GATE THRESHOLD VOLTAGE	$V_{GS(th)}$	$V_{DS}=-10V/I_D=-100\mu A$	-0.3V	—	-1.0V
STATIC DRAIN-SOURCE ON-STATE RESISTANCE	$R_{DS(on)}$ * PULSED	$I_D=-200mA / V_{GS}=-4.5V$	—	0.8 $\Omega$	1.2 $\Omega$
		$I_D=-100mA / V_{GS}=-2.5V$	—	1.0 $\Omega$	1.5 $\Omega$
		$I_D=-100mA / V_{GS}=-1.8V$	—	1.3 $\Omega$	2.2 $\Omega$
		$I_D=-40mA / V_{GS}=-1.5V$	—	1.6 $\Omega$	3.5 $\Omega$
		$I_D=-10mA / V_{GS}=-1.2V$	—	2.4 $\Omega$	9.6 $\Omega$
FORWARD TRANSFER ADMITTANCE	$ Y_{fs} $ * PULSED	$V_{DS}=-10V/I_D=-200mA$	0.2S	—	—
INPUT CAPACITANCE	$C_{iss}$	$V_{DS}=-10V$ $V_{GS}=0V$ $f=1MHz$	—	115pF	—
OUTPUT CAPACITANCE	$C_{oss}$		—	10pF	—
REVERSE TRANSFER CAPACITANCE	$C_{rss}$		—	6pF	—
TURN-ON DELAY TIME	$t_{d(on)}$ * PULSED	$V_{DD} \doteq -10V$ $I_D=-100mA$ $V_{GS}=-4.5V$ $R_L \doteq 100 \Omega$ $R_G=10 \Omega$ See Fig 1-1.1-2	—	6ns	—
RISE TIME	$t_r$ * PULSED		—	4ns	—
TURN-OFF DELAY TIME	$t_{d(off)}$ * PULSED		—	17ns	—
FALL TIME	$t_f$ * PULSED		—	17ns	—
TOTAL GATE CHARGE	$Q_g$ * PULSED	$V_{DD} \doteq -10V$ $I_D=-200mA$ $V_{GS}=-4.5V$ $R_L \doteq 50 \Omega / R_G=10 \Omega$ See Fig 2-1.2-2	—	1.4nC	—
GATE-SOURCE CHARGE	$Q_{gs}$ * PULSED		—	0.3nC	—
GATE-DRAIN CHARGE	$Q_{gd}$ * PULSED		—	0.3nC	—

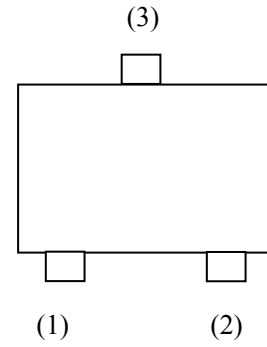
## BODY DIODE CHARACTERISTICS (SOURCE-DRAIN)

PARAMETER	ITEM	CONDITION	MIN.	TYP.	MAX.
FORWARD VOLTAGE	$V_{SD}$ * PULSED	$I_S=-200mA/V_{GS}=0V$	—	—	-1.2V

7. INNER CIRCUIT

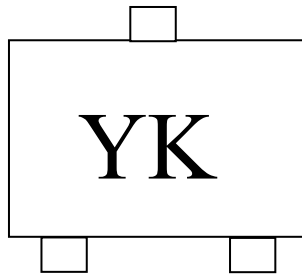


(1)GATE  
(2)SOURCE  
(3)DRAIN



※ 1 ESD PROTECTION DIODE  
※ 2 BODY DIODE

8. MARKING



“YK ” MEANS RZM002P02.

9. MEASUREMENT CIRCUIT

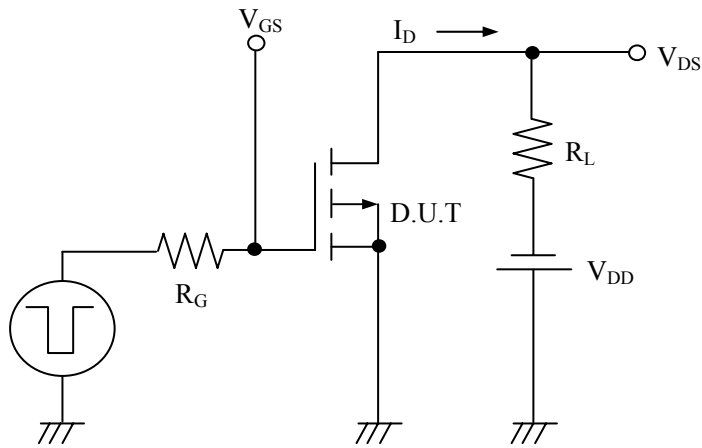


Fig.1-1 SWITCHING TIME MEASUREMENT CIRCUIT

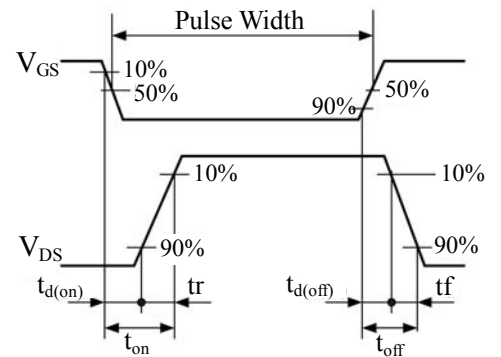


Fig.1-2 SWITCHING WAVEFORMS

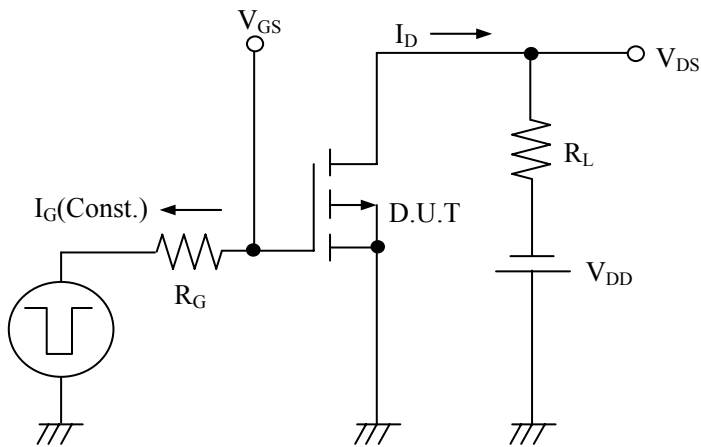


Fig.2-1 GATE CHARGE MEASUREMENT CIRCUIT

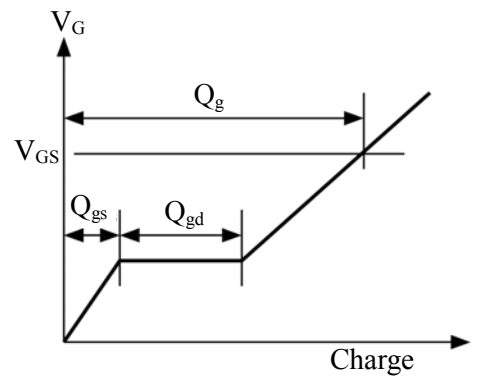


Fig.2-2 GATE CHARGE WAVEFORM

10. Notice

This product might cause chip aging and breakdown under the large electrified environment.  
Please consider to design ESD protection circuit.