




1.TYPE RUE002N02
 2.STRUCTURE SILICON N-CHANNEL MOS FET
 3.APPLICATIONS SWITCHING

4.ABSOLUTE MAXIMUM RATINGS [Ta=25°C]

DRAIN-SOURCE VOLTAGE	V_{DSS}	• • •	20V
GATE-SOURCE VOLTAGE	V_{GSS}	• • •	$\pm 8V$
DRAIN CURRENT CONTINUOUS	I_D	• • •	$\pm 200mA$
PULSED	I_{DP}	• • •	$\pm 400mA$ PW $\leq 10\mu s$ DUTY CYCLE $\leq 1\%$
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
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DESIGN	CHECK	APPROVAL	DATE : 25/SEP/2008	SPECIFICATION No. TSQ03037-RUE002N02
			REV. : 0	ROHM CO., LTD.

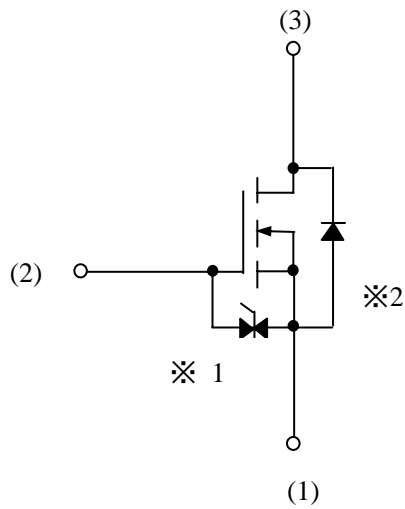
6.ELECTRICAL CHARACTERISTICS [Ta=25 °C]

PARAMETER	ITEM	CONDITION	MIN.	TYP.	MAX.
GATE-SOURCE LEAKAGE	I_{GSS}	$V_{GS}=\pm 8V/V_{DS}=0V$	—	—	$\pm 10\mu A$
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 μA
GATE THRESHOLD VOLTAGE	$V_{GS(th)}$	$V_{DS}=10V/I_D=1mA$	0.3V	—	1.0V
STATIC DRAIN-SOURCE ON-STATE RESISTANCE	$R_{DS(on)}$ * PULSED	$I_D=200mA/V_{GS}=2.5V$	—	0.8 Ω	1.2 Ω
		$I_D=200mA/V_{GS}=1.8V$	—	1.0 Ω	1.4 Ω
		$I_D=40mA/V_{GS}=1.5V$	—	1.2 Ω	2.4 Ω
		$I_D=20mA/V_{GS}=1.2V$	—	1.6 Ω	4.8 Ω
FORWARD TRANSFER ADMITTANCE	$ Y_{fs} $ * PULSED	$V_{DS}=10V/I_D=200mA$	200mS	—	—
INPUT CAPACITANCE	C_{iss}	$V_{DS}=10V$ $V_{GS}=0V$ $f=1MHz$	—	25pF	—
OUTPUT CAPACITANCE	C_{oss}		—	10pF	—
REVERSE TRANSFER CAPACITANCE	C_{rss}		—	10pF	—
TURN-ON DELAY TIME	$t_{d(on)}$ * PULSED	$V_{DD}\doteq 10V$ $I_D=150mA$ $V_{GS}=4.0V$ $R_L\doteq 67\Omega$ $R_G=10\Omega$ See Fig 1-1.1-2	—	5ns	—
RISE TIME	t_r * PULSED		—	10ns	—
TURN-OFF DELAY TIME	$t_{d(off)}$ * PULSED		—	15ns	—
FALL TIME	t_f * PULSED		—	10ns	—

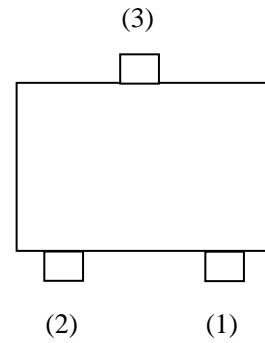
BODY DIODE CHARACTERISTICS (SOURCE-DRAIN)

PARAMETER	ITEM	CONDITION	MIN.	TYP.	MAX.
FORWARD VOLTAGE	V_{SD} * PULSED	$I_S=100mA/V_{GS}=0V$	—	—	1.2V

7. INNER CIRCUIT

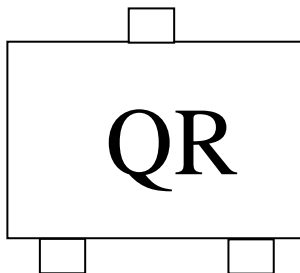


- (1) SOURCE
(2) GATE
(3) DRAIN



- ※ 1 ESD PROTECTION DIODE
※ 2 BODY DIODE

8. MARKING



“QR” MEANS RUE002N02.

9. MEASUREMENT CIRCUIT

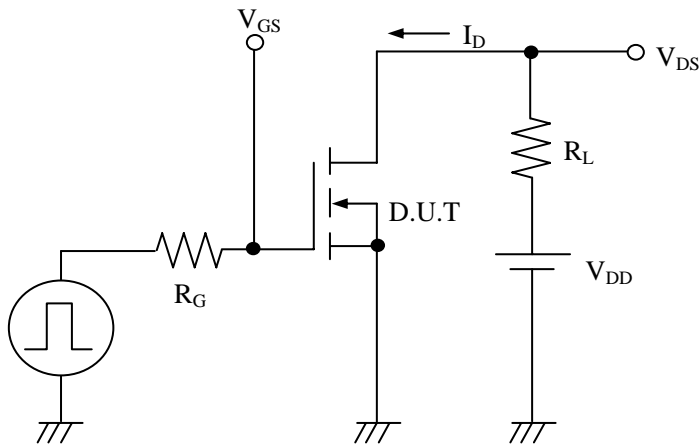


Fig.1-1 SWITCHING TIME MEASUREMENT CIRCUIT

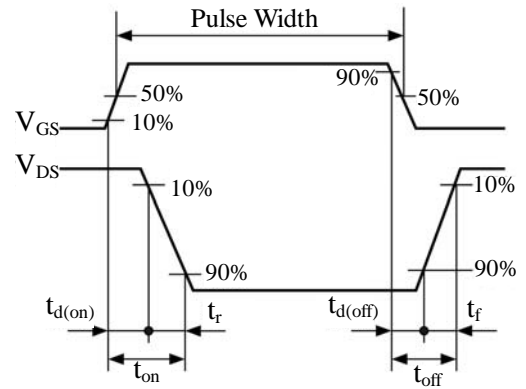


Fig.1-2 SWITCHING WAVEFORMS

10. Notice

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