

- 1 TYPE SP8K32
- 2 STRUCTURE SILICON N-CHANNEL MOS FET
- 3 APPLICATIONS SWITCHING
- 4 ABSOLUTE MAXIMUM RATINGS [Ta=25°C]
《 IT IS THE SAME RATINGS FOR THE Tr1 AND Tr2 》

DRAIN-SOURCE VOLTAGE		V _{DSS}	• • •	60V
GATE-SOURCE VOLTAGE		V _{GSS}	• • •	20V
DRAIN CURRENT	CONTINUOUS	I _D	• • •	±4.5A
	PULSED	I _{DP}	• • •	±18A
				PW ≤ 10μs DUTY CYCLE ≤ 1%
SOURCE CURRENT	CONTINUOUS	I _S	• • •	1.0A
(BODY DIODE)	PULSED	I _{SP}	• • •	18A
				PW ≤ 10μs DUTY CYCLE ≤ 1%
TOTAL POWER DISSIPATION		P _D	• • •	2.0W / TOTAL MOUNTED ON A CERAMIC BOARD
CHANNEL TEMPERATURE		T _{ch}	• • •	150°C
RANGE OF STORAGE TEMPERATURE		T _{stg}	• • •	-55~150°C

DESIGN	CHECK	APPROVAL	DATE : 6/MAR/2007	SPECIFICATION No TSQ03080-SP8K32
<i>T. Kuroki</i>	<i>G. Tsubaki</i>	<i>S. K. J. H.</i>	REV : 0	ROHM CO., LTD.

5 ELECTRICAL CHARACTERISTICS [Ta=25°C]

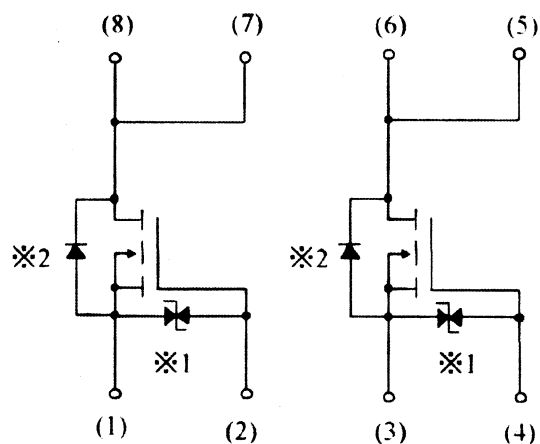
(IT IS THE SAME CHARACTERISTICS FOR THE Tr1 AND Tr2)

PARAMETER	ITEM	CONDITION	MIN.	TYP.	MAX.
GATE-SOURCE LEAKAGE	I_{GSS}	$V_{GS}=20V/V_{DS}=0V$	—	—	10μA
DRAIN-SOURCE BREAKDOWN VOLTAGE	$V_{(BR)DSS}$	$I_D=1mA/V_{GS}=0V$	60V	—	—
ZERO GATE VOLTAGE DRAIN CURRENT	I_{DSS}	$V_{DS}=60V/V_{GS}=0V$	—	—	1μA
GATE THRESHOLD VOLTAGE	$V_{GS(th)}$	$V_{DS}=10V/I_D=1mA$	1.0V	—	2.5V
STATIC DRAIN-SOURCE ON-STATE RESISTANCE	$R_{DS(on)}$ * PULSED	$I_D=4.5A/V_{GS}=10V$	—	46mΩ	65mΩ
		$I_D=4.5A/V_{GS}=4.5V$	—	52mΩ	73mΩ
		$I_D=4.5A/V_{GS}=4.0V$	—	55mΩ	77mΩ
FORWARD TRANSFER ADMITTANCE	$ Y_{fs} $ * PULSED	$V_{DS}=10V/I_D=4.5A$	4.0S	—	—
INPUT CAPACITANCE	C_{iss}	$V_{DS}=10V$ $V_{GS}=0V$ $f=1MHz$	—	500pF	—
OUTPUT CAPACITANCE	C_{oss}		—	120pF	—
REVERSE TRANSFER CAPACITANCE	C_{rss}		—	55pF	—
TURN-ON DELAY TIME	$t_{d(on)}$ * PULSED	$V_{DD} \doteq 30V$	—	12ns	—
RISE TIME	t_r * PULSED	$I_D=2.3A$ $V_{GS}=10V$	—	18ns	—
TURN-OFF DELAY TIME	$t_{d(off)}$ * PULSED	$R_L=13\Omega$ $R_G=10\Omega$	—	40ns	—
FALL TIME	t_f * PULSED	See Fig 1-1 1-2	—	13ns	—
TOTAL GATE CHARGE	Q_g * PULSED	$V_{DD} \doteq 30V$ $I_D=4.5A$	—	7.0nC	10nC
GATE-SOURCE CHARGE	Q_{gs} * PULSED	$V_{GS}=5V$	—	1.6nC	—
GATE-DRAIN CHARGE	Q_{gd} * PULSED	$R_L=6.7\Omega/R_G=10\Omega$ See Fig 2-1 2-2	—	2.5nC	—

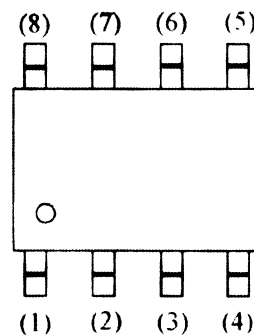
BODY DIODE CHARACTERISTICS (SOURCE-DRAIN)

PARAMETER	ITEM	CONDITION	MIN.	TYP.	MAX.
FORWARD VOLTAGE	V_{SD} * PULSED	$I_S=4.5A/V_{GS}=0V$	—	—	1.2V

6 INNER CIRCUIT

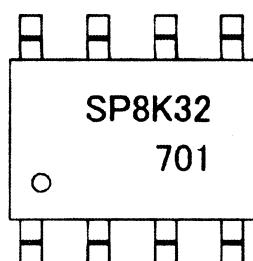


- (1) Tr1 SOURCE
- (2) Tr1 GATE
- (3) Tr2 SOURCE
- (4) Tr2 GATE
- (5) Tr2 DRAIN
- (6) Tr2 DRAIN
- (7) Tr1 DRAIN
- (8) Tr1 DRAIN



- ※1 ESD PROTECTION DIODE
- ※2 BODY DIODE

7 MARKING



"701" MEANS PRODUCTION YEAR AND WEEK.

"O" MEANS 1pin MARK.

8 MEASUREMENT CIRCUIT

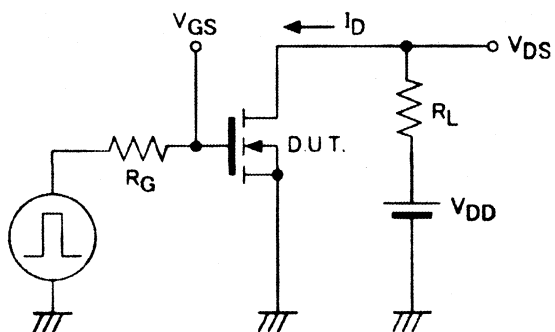


Fig 1-1 SWITCHING TIME MEASUREMENT CIRCUIT

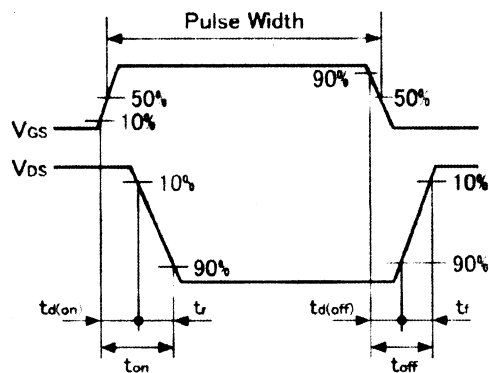


Fig 1-2 SWITCHING WAVEFORMS

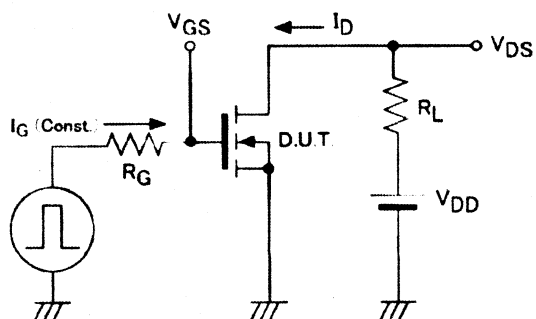


Fig 2-1 GATE CHARGE MEASUREMENT CIRCUIT

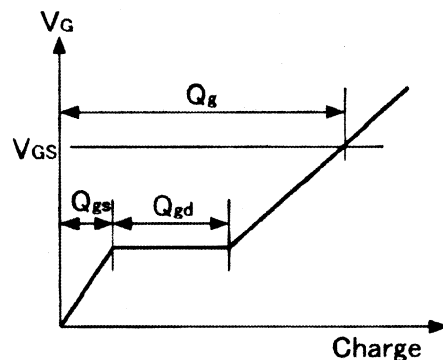


Fig 2-2 GATE CHARGE WAVEFORM