

1. TYPE RTR030P02
2. STRUCTURE SILICON P-CHANNEL MOS FET
3. APPLICATIONS SWITCHING

4. ABSOLUTE MAXIMUM RATINGS [Ta=25°C]

DRAIN-SOURCE VOLTAGE	VDSS	• • •	-20V
GATE-SOURCE VOLTAGE	VGSS	• • •	±12V
DRAIN CURRENT	CONTINUOUS	ID	±3.0A
	PULSED	IDP	±12A PW≤10μs DUTY CYCLE≤1%
SOURCE CURRENT	CONTINUOUS	IS	-0.8A
	PULSED	ISP	-3.2A
TOTAL POWER DISSIPATION	PD	• • •	1.0W MOUNTED ON A CERAMIC BOARD
CHANNEL TEMPERATURE	Tch	• • •	150°C
RANGE OF STRAGE TEMPERATURE	Tstg	• • •	-55~150°C

5. THERMAL RESISTANCE

CHANNEL TO AMBIENT	Rth(ch-a)	• • •	125°C/W MOUNTED ON A CERAMIC BOARD
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DESIGN	CHECK	APPROVAL	DATE : 1/AUG/2002	SPECIFICATION No. TSQ03120-RTR030P02
H. Takada	S. Higashida	T. Horie	REV.: 0	ROHM CO., LTD.

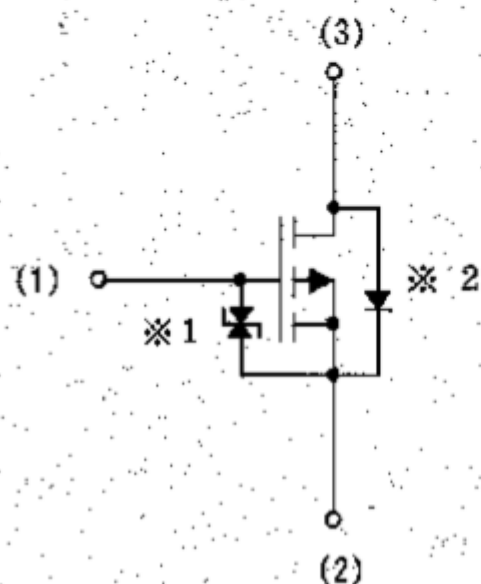
6. ELECTRICAL CHARACTERISTICS [Ta=25°C]

PARAMETER	ITEM	CONDITION	MIN.	TYP.	MAX.
GATE-SOURCE LEAKAGE	I _{GSS}	V _{GS} =±12V/V _{DS} =0V	-	-	±10μA
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	-	-	-1μA
GATE THRESHOLD VOLTAGE	V _{GS(th)}	V _{DS} =-10V/I _D =-1mA	-0.7V	-	-2.0V
STATIC DRAIN-SOURCE ON-STATE RESISTANCE	R _{DS(on)} * PULSED	I _D =-3A/V _{GS} =-4.5V	-	55mΩ	75mΩ
		I _D =-3A/V _{GS} =-4.0V	-	60mΩ	85mΩ
		I _D =-1.5A V _{GS} =-2.5V	-	90mΩ	125mΩ
FORWARD TRANSFER ADMITTANCE	Y _{fs} * PULSED	V _{DS} =-10V I _D =-1.5A	2.5S	-	-
INPUT CAPACITANCE	C _{iss}	V _{DS} =-10V/V _{GS} =0V f=1MHz	-	840pF	-
OUTPUT CAPACITANCE	C _{oss}		-	140pF	-
REVERSE TRANSFER CAPACITANCE	C _{rss}		-	100pF	-
TURN-ON DELAY TIME	t _{d(on)} * PULSED	I _D =-1.5A V _{DD} =-15V V _{GS} =-4.5V R _L =10Ω R _{GS} =10Ω	-	12ns	-
RISE TIME	t _r * PULSED		-	20ns	-
TURN-OFF DELAY TIME	t _{d(off)} * PULSED		-	50ns	-
FALL TIME	t _f * PULSED		-	20ns	-
TOTAL GATE CHARGE	Q _g	V _{DD} =-15V V _{GS} =-4.5V I _D =-3A	-	9.3nC	-
GATE-SOURCE CHARGE	Q _{gs}		-	1.6nC	-
GATE-DRAIN CHARGE	Q _{gd}		-	2.6nC	-

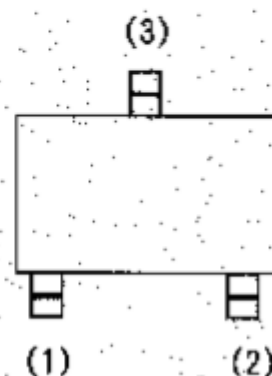
BODY DIODE CHARACTERISTICS (SOURCE-DRAIN CHARACTERISTICS) [Ta=25°C]

PARAMETER	ITEM	CONDITION	MIN.	TYP.	MAX.
FORWARD VOLTAGE	V _{SD}	I _S =-0.8A/V _{GS} =0V	-	-	-1.2V

7. INNER CIRCUIT

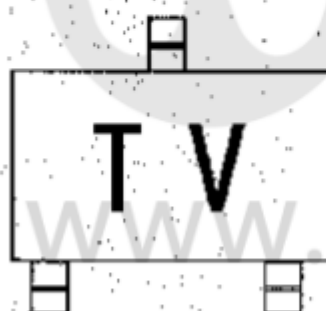


- (1) GATE
- (2) SOURCE
- (3) DRAIN



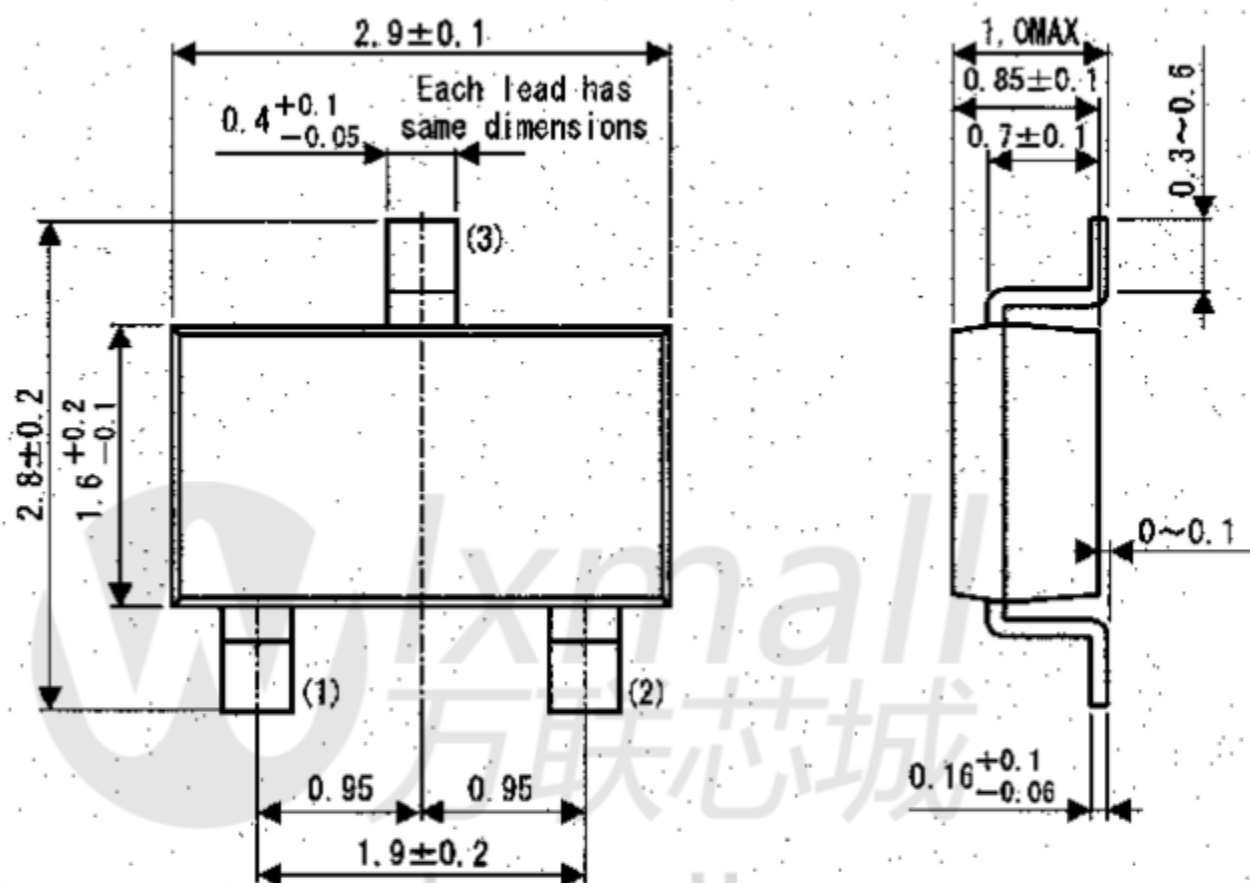
- ※ 1 ESD PROTECTION DIODE
- ※ 2 BODY DIODE

8. MARKING



"TV" MEANS RTR030P02.

Dimension



UNIT : mm

mass about 12.0mg/pcs.

- (1) Base (Gate)
- (2) Emitter (Source)
- (3) Collector (Drain)

DESIGN

CHECK

APPROVAL

DATE: JAN. 16, 2003

SPECIFICATION No. : TS003120

REV. 1

ROHM CO., LTD.

4. Taping packing specification

4-1. Direction of tape winding

TL Connection (3) comes to feeding hole side.
The direction shall be one in a reel.

4-2. Cumulative pitch tolerance

The cumulative pitch tolerance of the mold for producing the carrier tape shall be within $\pm 0.2\text{mm}$ per 10 pitches.

4-3. The minimum radius to bend the carrier tape

Carrier tape shall be flexible enough to protect from no component and damage under a minimum radius of 30mm. However, it shall be defined only inside of carrier tape.

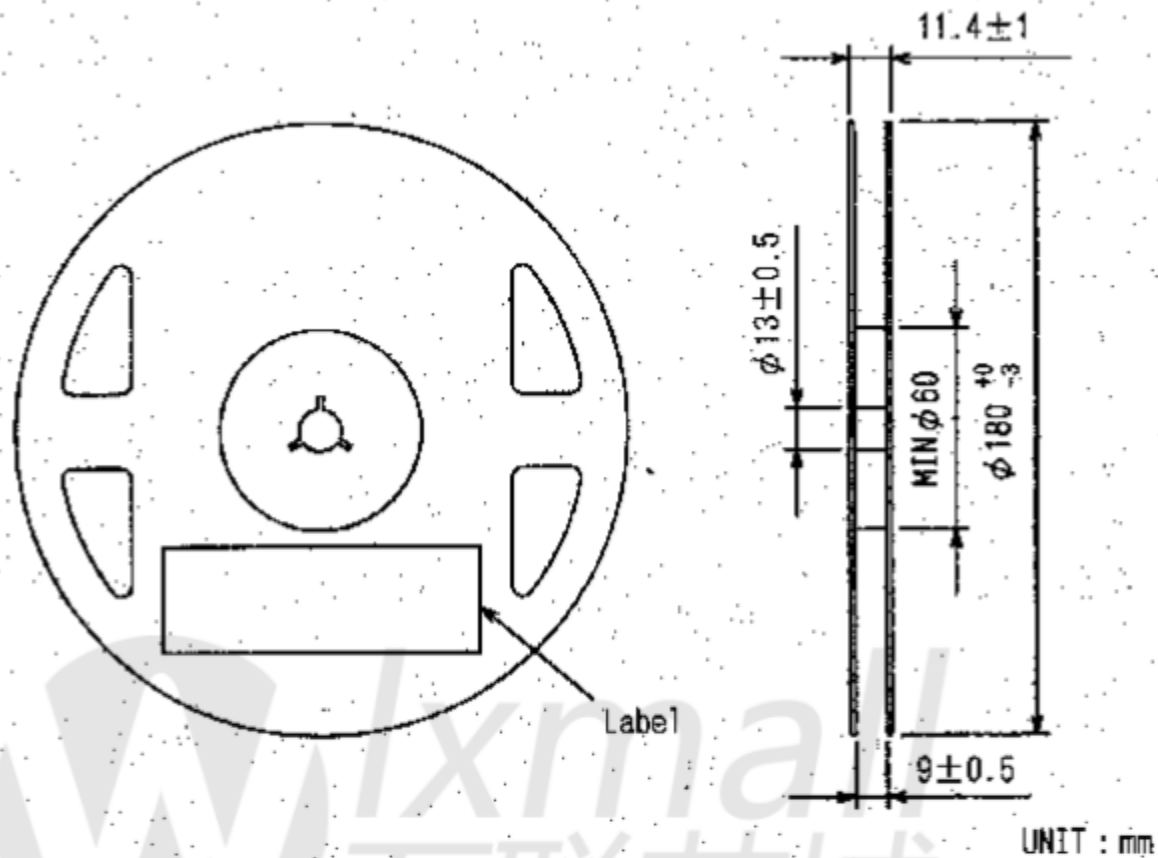
4-4. The material of carrier tape.

Special carbon paints are coated both sides of polystyrene.

4-5. Failure Rate

	Rate of occurrence	Remarks
Continuous missing	0%	Except leader and trail portion
Uncontinuous missing	MAX 0.1%/reel	

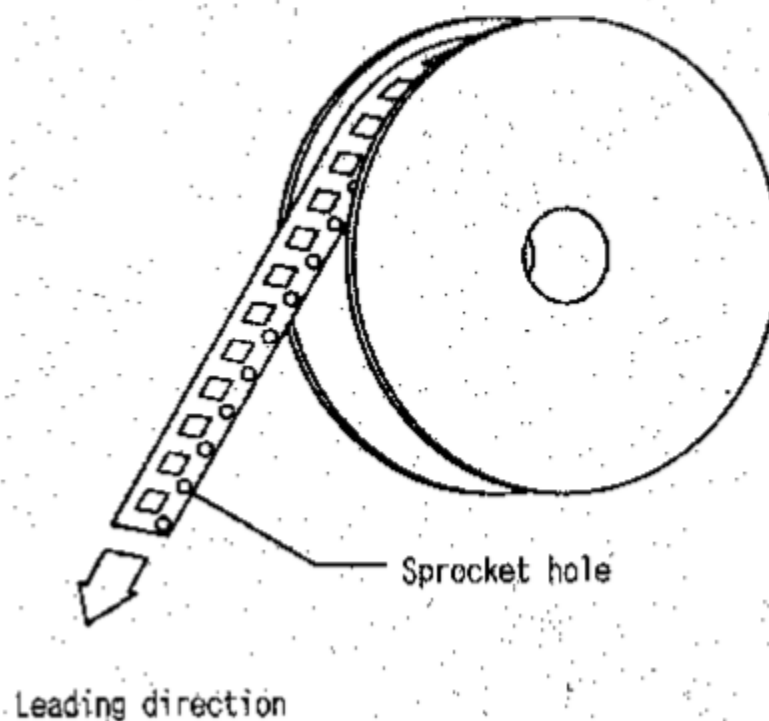
5. Reel dimensions



6. Reeling specification

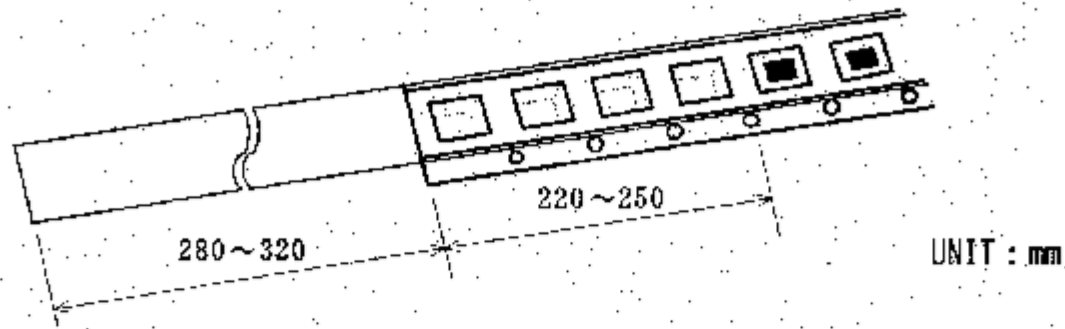
6-1. Leading direction

Leading direction of carrier tape shall be indicated as below.



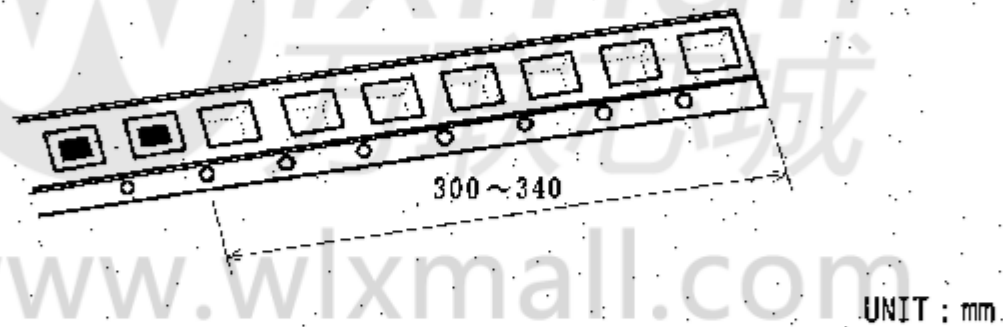
6-2. Leader

Leader tape shall be separated into two parts—an adhesive tape at first part and carrier tape without products.



6-3. Trail

Trail tape shall remain with no product and trail tape shall not be stuck directly on a reel.



7. Treatment for end of tape

The end of leader tape shall be fixed with the white adhesive tape.

