

# 1S1585~1S1588

Silicon Epitaxial Planar Type  
Diode

ULTRA HIGH SPEED SWITCHING APPLICATIONS.

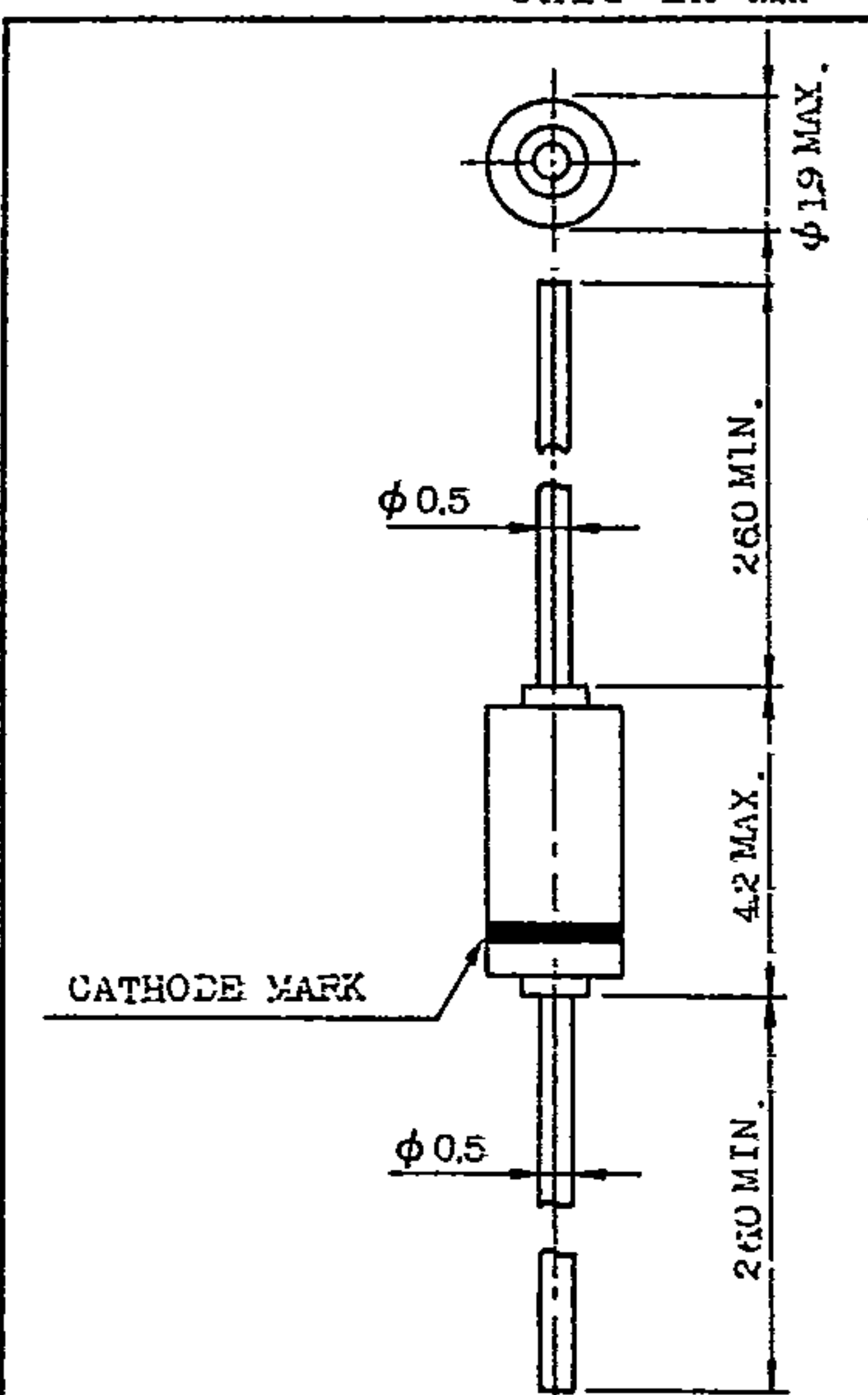
## FEATURES:

- Low Forward Voltage :  $V_F=1.0V$  (Max.)
- Small Total Capacitance :  $C_T=2pF$  (Max.)
- Fast Reverse Recovery Time :  $T_{rr}=2ns$  (Max.)

## MAXIMUM RATINGS ( $T_a=25^\circ C$ )

| CHARACTERISTIC                    |                  | SYMBOL   | RATING | UNIT |
|-----------------------------------|------------------|----------|--------|------|
| Maximum (Peak)<br>Reverse Voltage | 1S1585           | $V_{RM}$ | 90     | V    |
|                                   | 1S1586<br>1S1587 |          | 55     |      |
|                                   | 1S1588           |          | 35     |      |
|                                   |                  |          |        |      |
| Reverse Voltage                   | 1S1585           | $V_R$    | 80     | V    |
|                                   | 1S1586<br>1S1587 |          | 50     |      |
|                                   | 1S1588           |          | 30     |      |
|                                   |                  |          |        |      |
| Maximum (Peak)<br>Forward Current | 1S1585<br>1S1586 | $I_{FM}$ | 480    | mA   |
|                                   | 1S1587           |          | 400    |      |
|                                   | 1S1588           |          | 360    |      |
|                                   |                  |          |        |      |
| Average Forward<br>Current        | 1S1585<br>1S1586 | $I_O$    | 150    | mA   |
|                                   | 1S1587           |          | 130    |      |
|                                   | 1S1588           |          | 120    |      |
|                                   |                  |          |        |      |

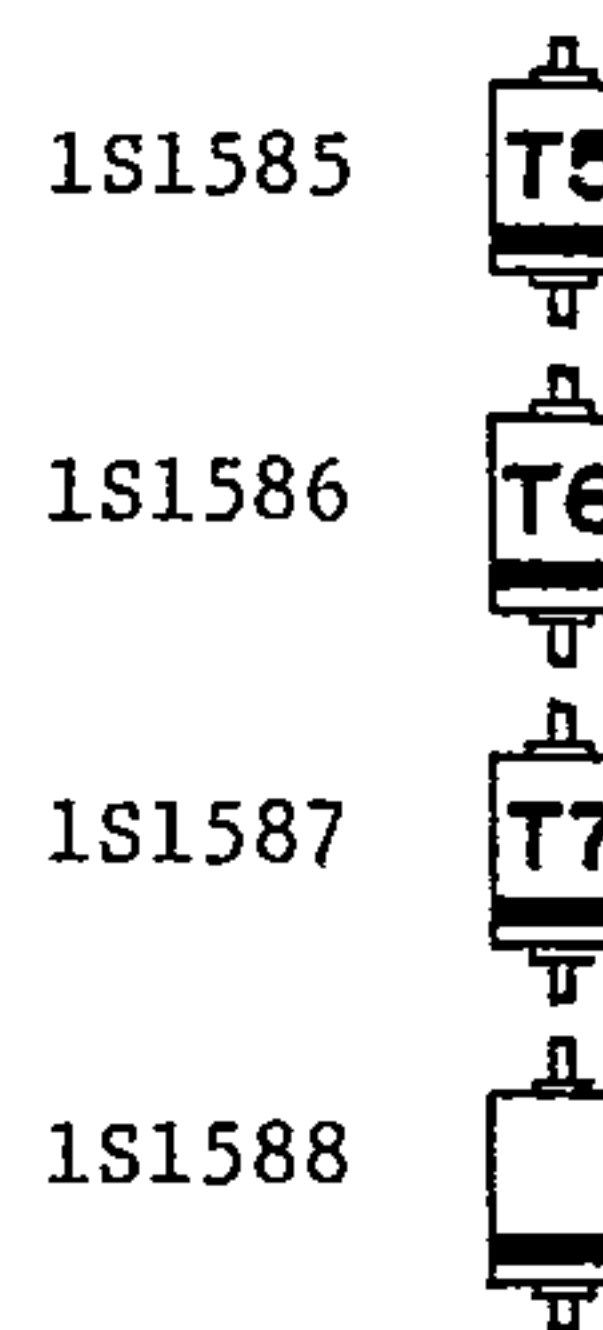
Unit in mm



|         |        |
|---------|--------|
| JEDEC   | DO-35  |
| EIAJ    | SC-40  |
| TOSHIBA | 1-2A1A |

Weight : 0.14g

## Marking



# 1S1585~1S1588

| CHARACTERISTIC            |        | SYMBOL           | RATING    | UNIT |
|---------------------------|--------|------------------|-----------|------|
| Surge Current<br>(1 sec)  | 1S1585 | I <sub>FSM</sub> | 700       | mA   |
|                           | 1S1586 |                  |           |      |
|                           | 1S1587 |                  | 600       |      |
|                           | 1S1588 |                  | 500       |      |
| Power Dissipation         |        | P                | 300       | mW   |
| Junction Temperature      |        | T <sub>j</sub>   | 175       | °C   |
| Storage Temperature Range |        | T <sub>stg</sub> | -65 ~ 175 | °C   |

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

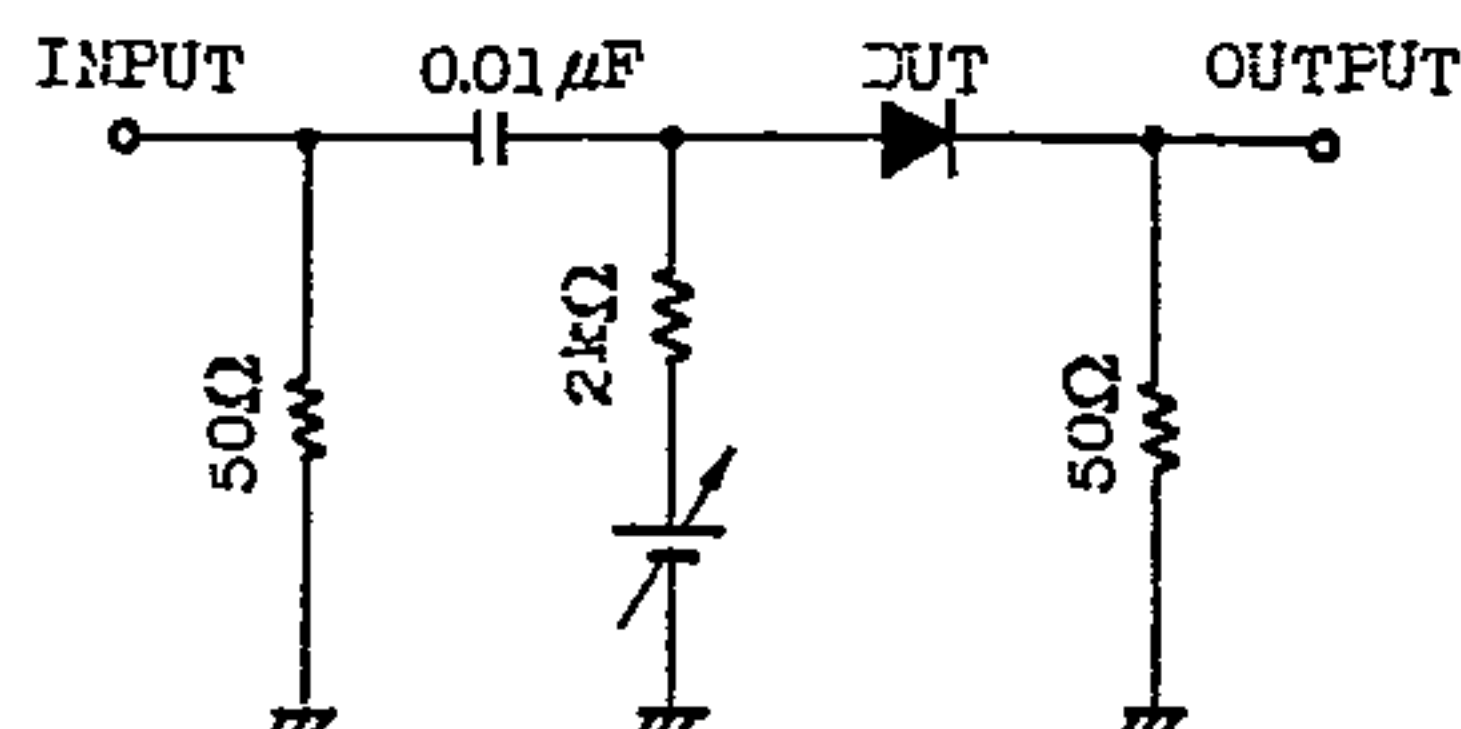
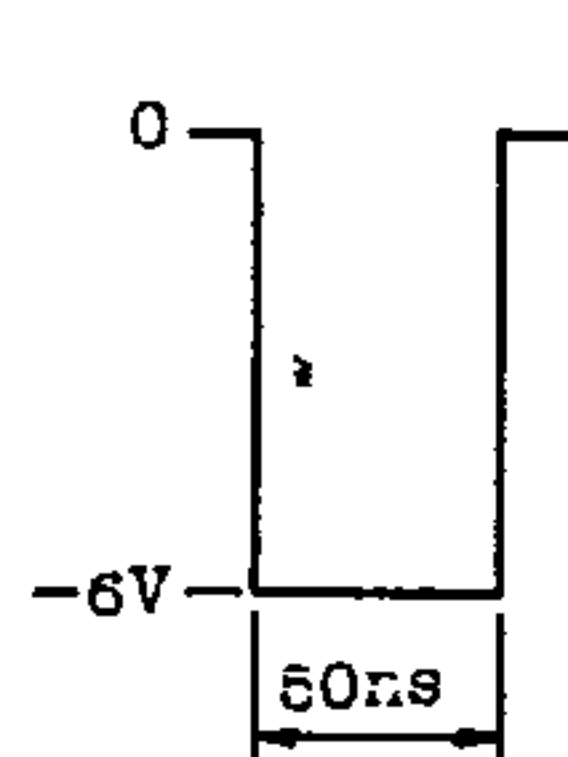
| CHARACTERISTIC        |        | SYMBOL          | TEST CONDITION                 | MIN. | TYP. | MAX. | UNIT |
|-----------------------|--------|-----------------|--------------------------------|------|------|------|------|
| Forward Voltage       | 1S1585 | V <sub>F</sub>  | I <sub>F</sub> = 100mA         | -    | -    | 1.0  | V    |
|                       | 1S1586 |                 |                                | -    | -    | 1.2  |      |
|                       | 1S1587 |                 |                                | -    | -    | 1.3  |      |
|                       | 1S1588 |                 |                                | -    | -    | 1.3  |      |
| Reverse Current       | 1S1585 | I <sub>R</sub>  | V <sub>R</sub> = 80V           | -    | -    | 0.5  | μA   |
|                       | 1S1586 |                 | V <sub>R</sub> = 50V           |      |      |      |      |
|                       | 1S1587 |                 | V <sub>R</sub> = 50V           |      |      |      |      |
|                       | 1S1588 |                 | V <sub>R</sub> = 30V           |      |      |      |      |
| Total Capacitance     | 1S1585 | C <sub>T</sub>  | V <sub>R</sub> = 0<br>f = 1MHz | -    | -    | 2    | pF   |
|                       | 1S1586 |                 |                                | -    | -    | 2    |      |
|                       | 1S1587 |                 |                                | -    | -    | 2    |      |
|                       | 1S1588 |                 |                                | -    | -    | 3    |      |
| Reverse Recovery Time | 1S1585 | t <sub>rr</sub> | V <sub>R</sub> = 6V            | -    | -    | 2    | ns   |
|                       | 1S1586 |                 | I <sub>F</sub> = 10mA          |      |      |      |      |
|                       | 1S1587 |                 | R <sub>L</sub> = 100Ω          |      |      |      |      |
|                       | 1S1588 |                 | (Fig.)                         |      |      | 4    |      |

TOSHIBA CORPORATION

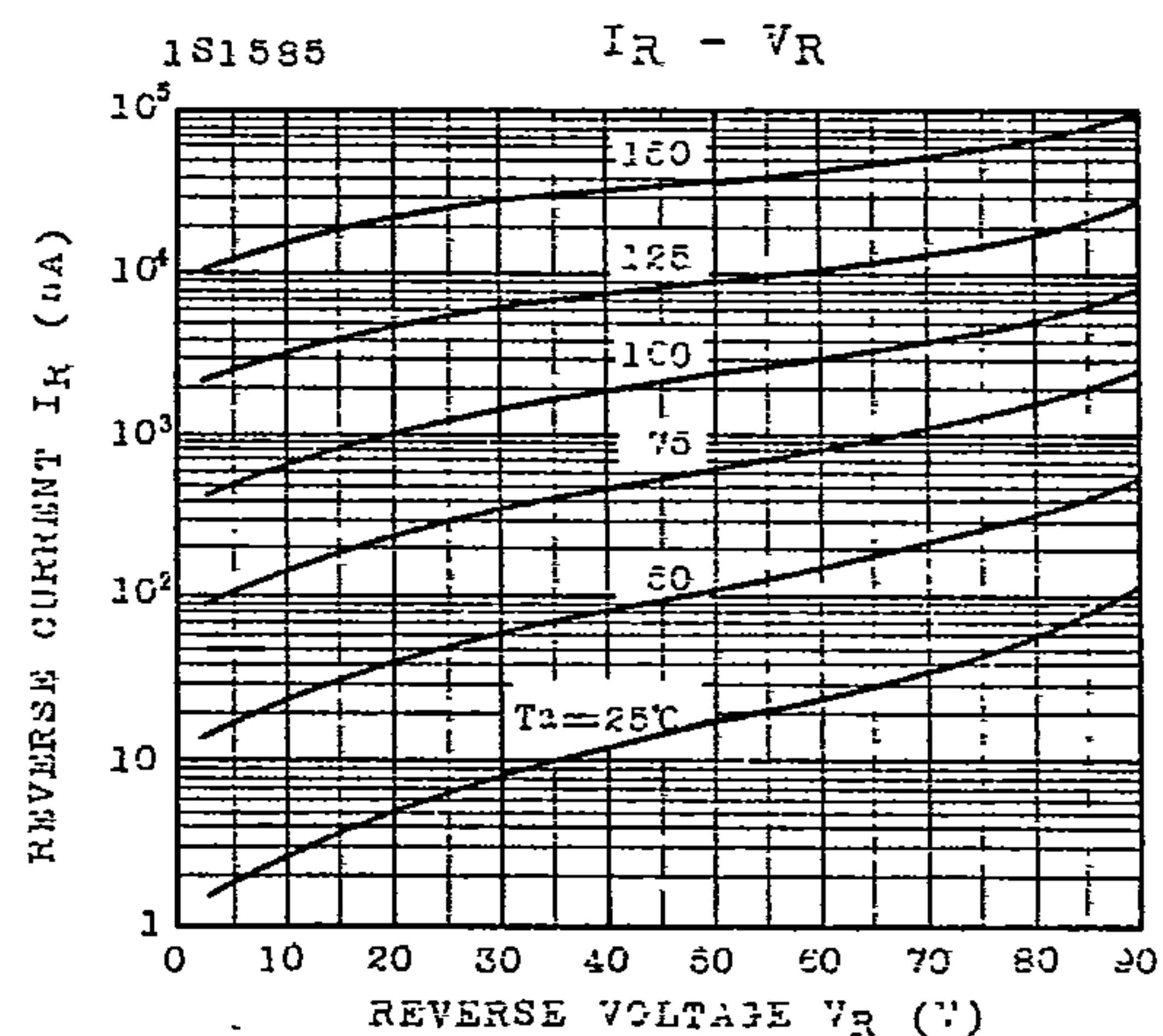
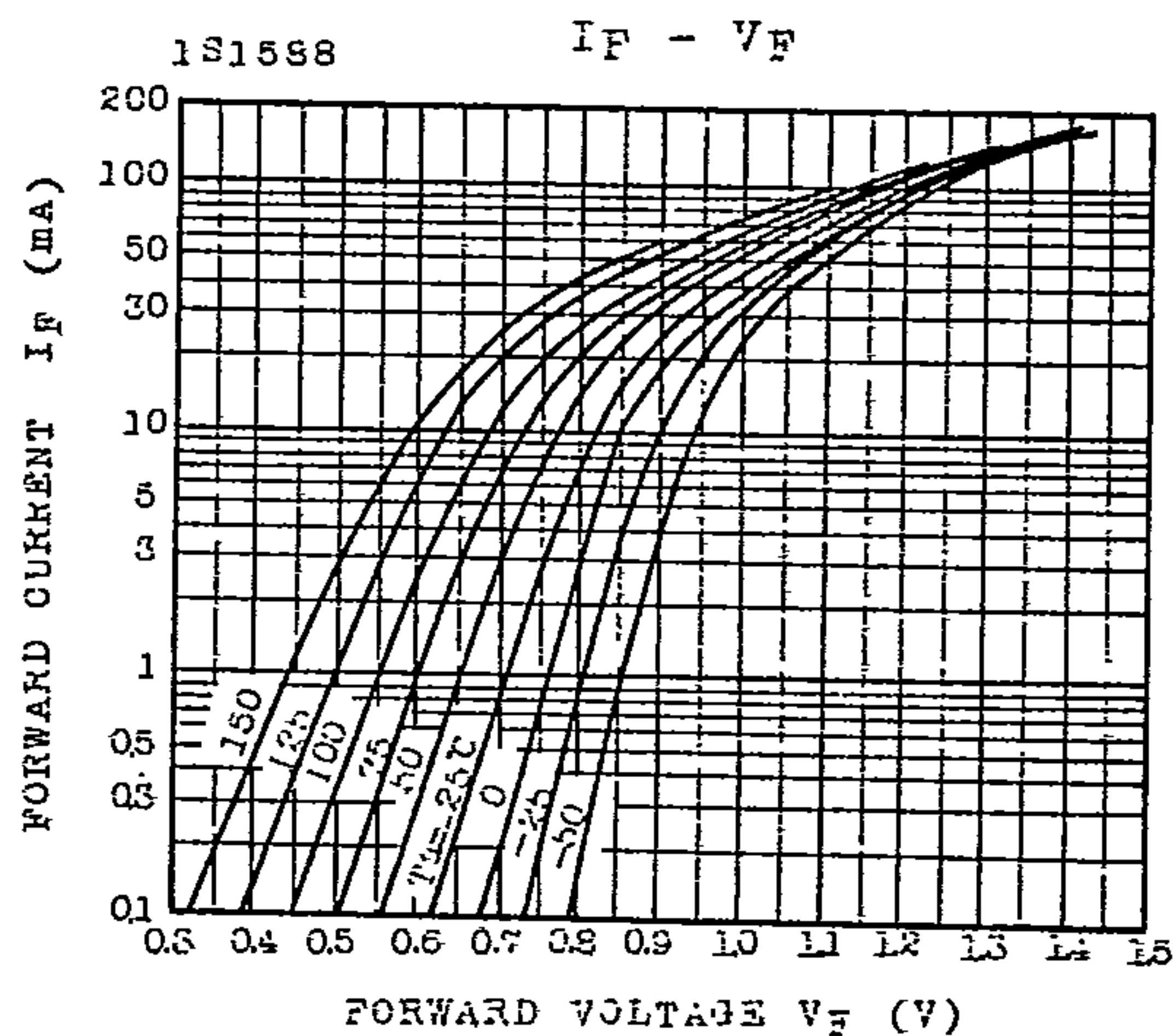
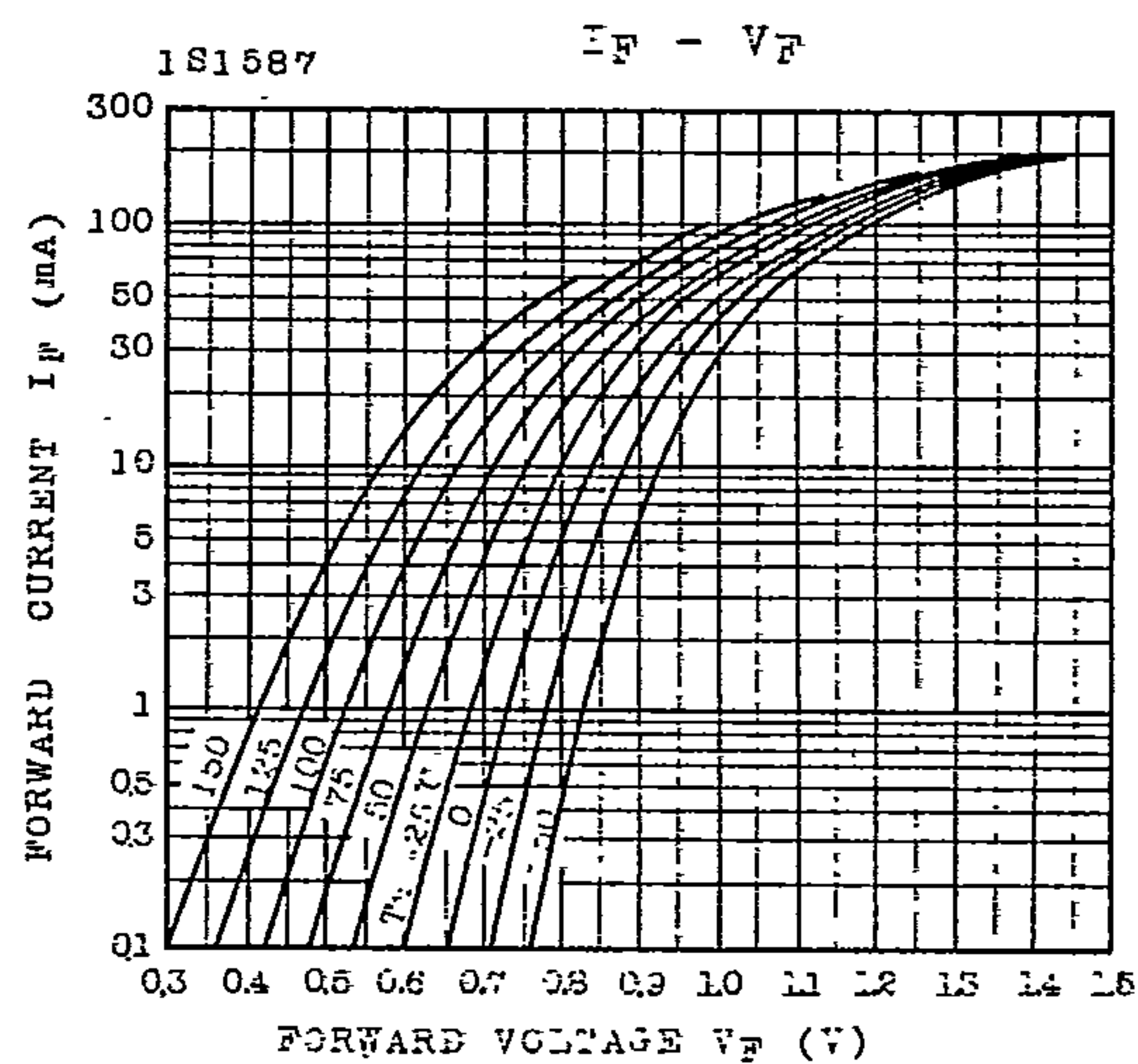
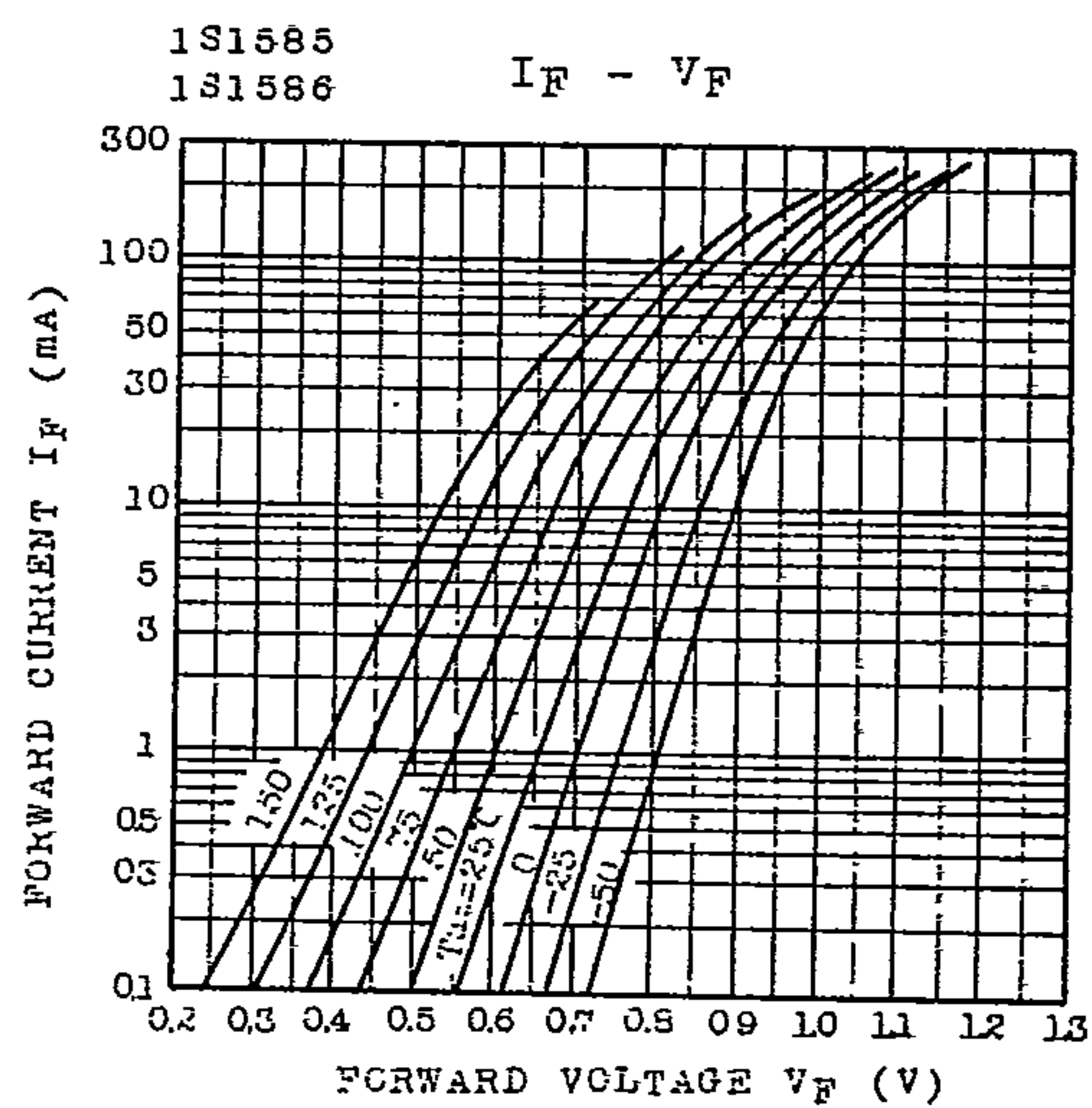
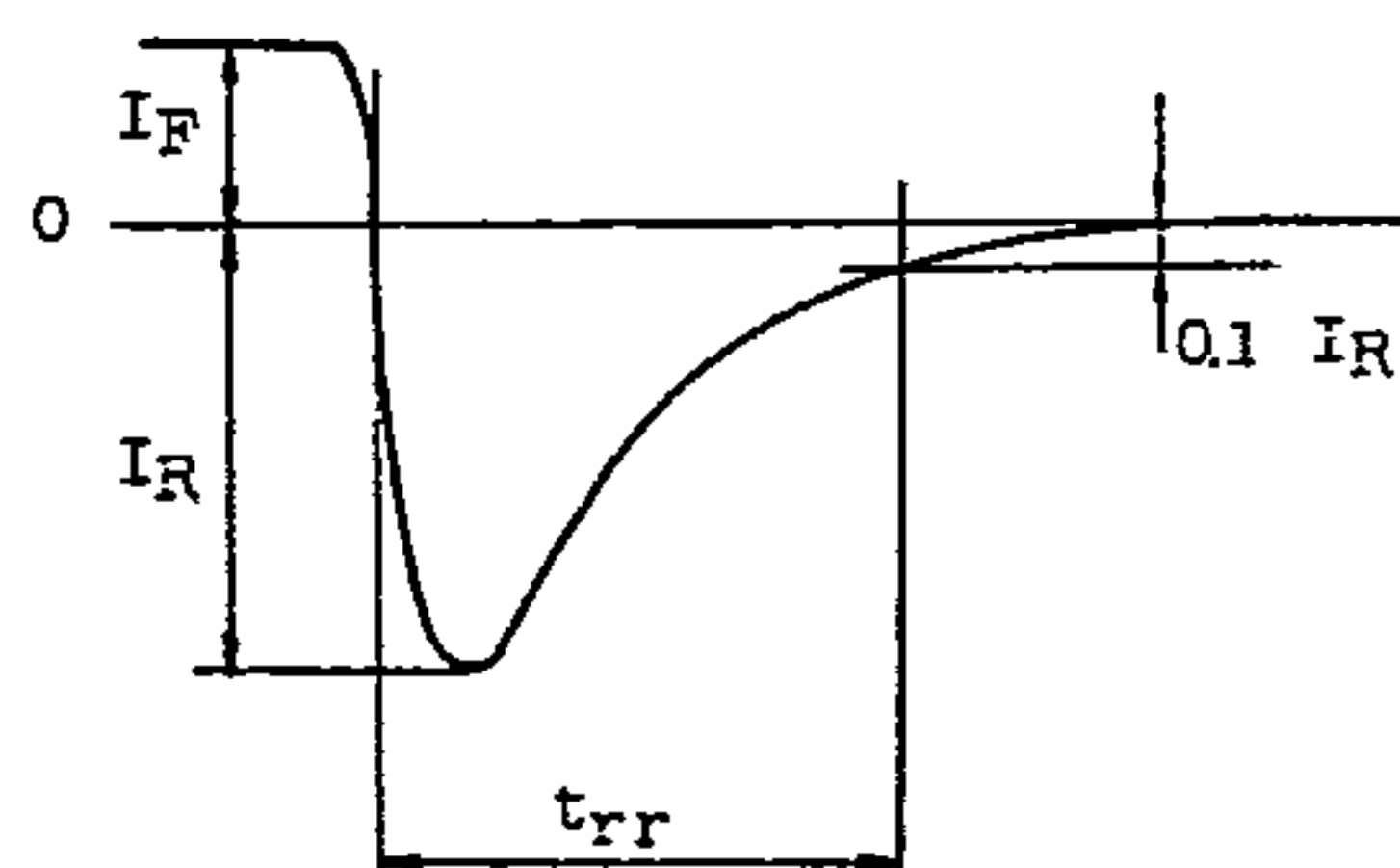
# 1S1585~1S1588

Fig.  $t_{rr}$  TEST CIRCUIT

INPUT WAVEFORM

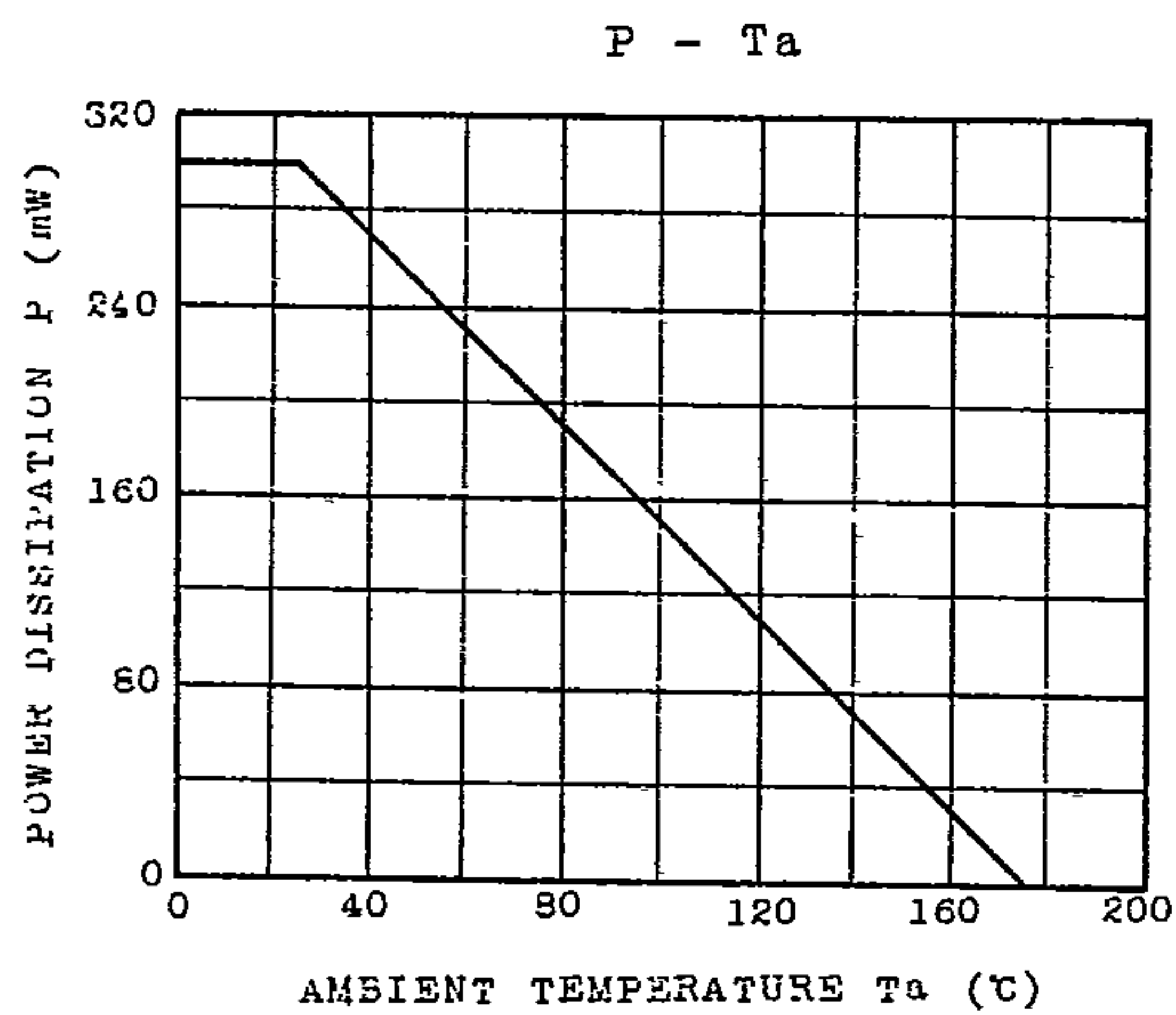
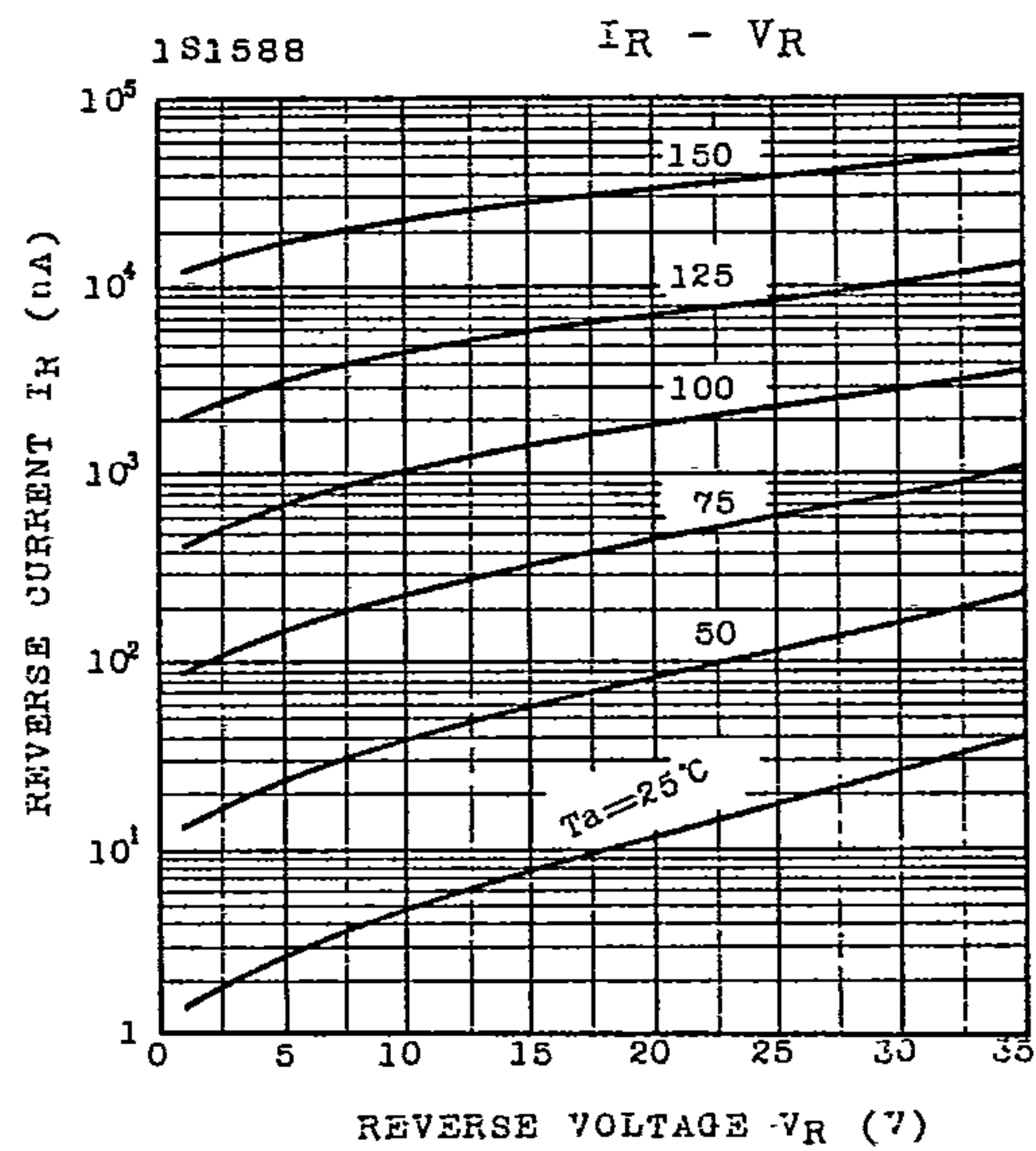
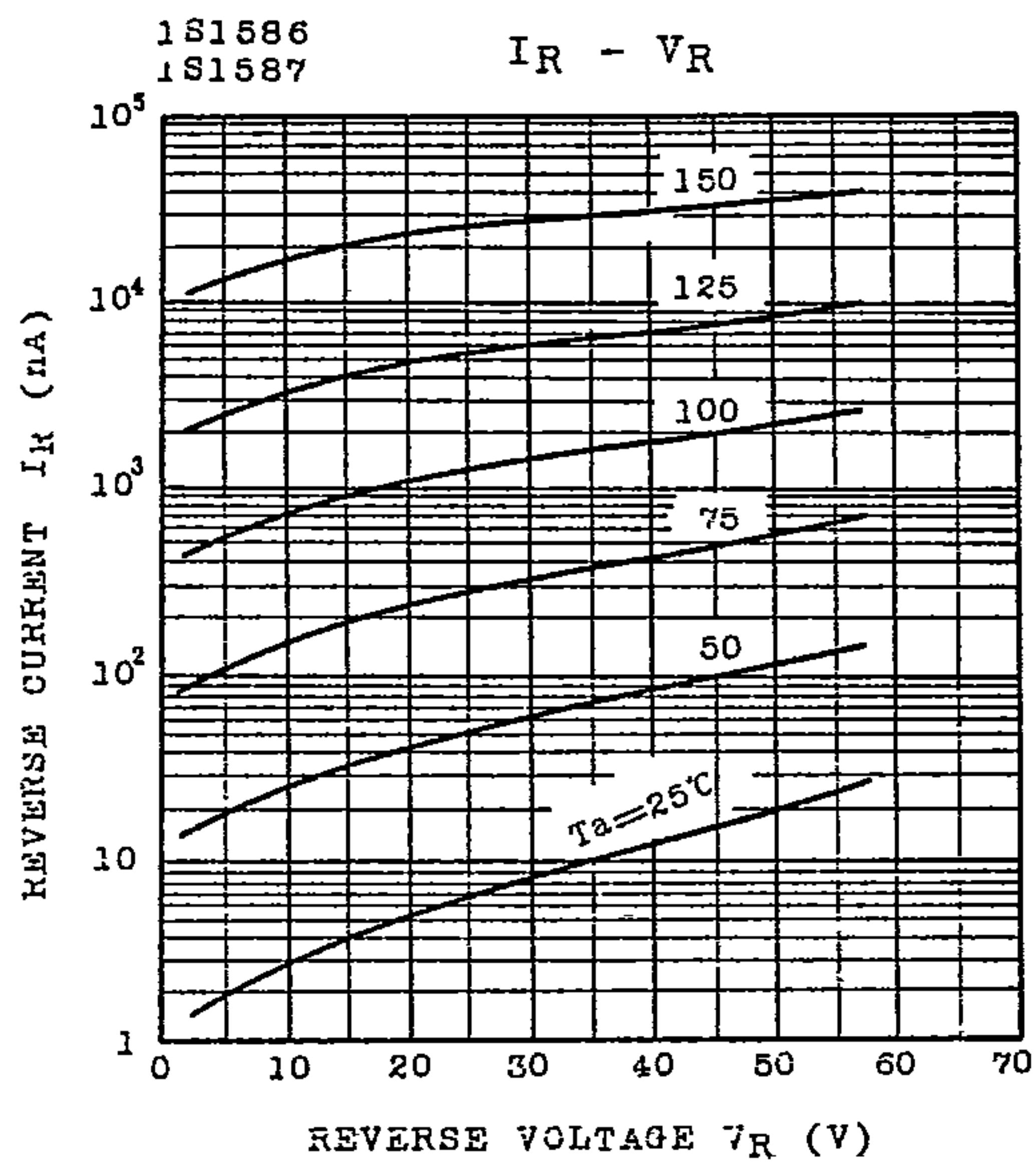


OUTPUT WAVEFORM



TOSHIBA CORPORATION

# 1S1585~1S1588



TOSHIBA CORPORATION