

THOMSON
DIVISION SEMICONDUCTEURS

59C 02497

D

PL 3V3Z → PL 200Z

ZENER DIODES
DIODES ZENER

1,3 W silicon Zener diodes, hermetically sealed plastic according to normalization CCTU : F 126 offering the following advantages :

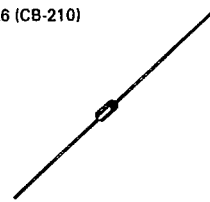
- Large voltage range : 3,3 V to 200 V
- High surge capability : 30 W @ 10 ms

Diodes Zener de 1,3 W au silicium encapsulées plastique selon normalisation CCTU : F 126 offrant les avantages suivants :

- *Gamme de tension étendue : 3,3 V à 200 V*
- *Forte tenue en surcharge : 30 W @ 10 ms*

 $P_{tot} = 1,3 \text{ W}$ $3,3 \text{ V} \leq V_{ZT \text{ nom}} \leq 200 \text{ V}$

Case : F-126 (CB-210)
Boîtier



ABSOLUTE RATINGS (LIMITING VALUES)
VALEURS LIMITES ABSOLUES D'UTILISATION

 $T_{amb} = 50^\circ\text{C}$ $d = 10 \text{ mm}$

(Unless otherwise stated)
(Sauf indications contraires)

| | | | |
|---|------------|----------------------------------|------------------|
| DC power dissipation (see fig. 1) <i>Dissipation de puissance en régime permanent (voir fig. 1)</i> | P_{tot} | 1,3 | W |
| Continuous reverse current <i>Courant inverse continu</i> | I_{ZM} | See page 2 <i>Voir page 2</i> | mA |
| Non repetitive surge peak power dissipation ($t = 10 \text{ ms}$) (see fig. 4) <i>Puissance de surcharge crête accidentelle ($t = 10 \text{ ms}$) (voir fig. 4)</i> | $PRSM$ | 30 | W |
| Operating temperature <i>Température de fonctionnement</i> | T_{oper} | $-55 \rightarrow +150$ | $^\circ\text{C}$ |
| Storage temperature <i>Température de stockage</i> | T_{stg} | $-55 \rightarrow +150$ | $^\circ\text{C}$ |
| Maximum junction temperature <i>Température maximale de jonction</i> | T_j | 150 | $^\circ\text{C}$ |
| Maximum lead temperature for soldering during 3 s at 5 mm from case <i>Température maximum de soudure des connexions pendant 3 s à 5 mm du boîtier</i> | T_L | 300 | $^\circ\text{C}$ |

Junction-ambient thermal resistance
Résistance thermique jonction-ambiante

max

 $R_{th(j-a)}$

75

 $^\circ\text{C/W}$

50, rue Jean-Pierre Timbaud - B.P. 5
F - 92403 Courbevoie Cedex FRANCE
Tél. : (1) 788-50-01 Telex : 610560 F

143

December 1982 - 1/3

THOMSON
COMPOSANTS

PL 3V3Z → PL 200Z

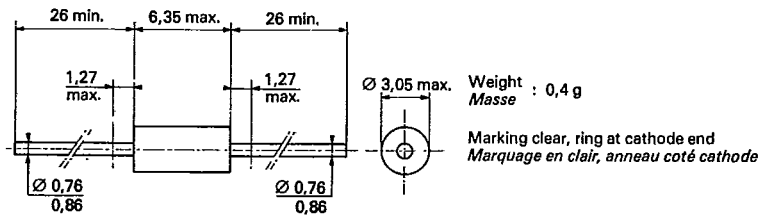
ELECTRICAL CHARACTERISTIC
CARACTERISTIQUES ELECTRIQUES $T_{amb} = 25^{\circ}C$

59C 02498 DT-11-15

| Types | V_{ZT} / I_{ZT} | | r_{ZT} / I_{ZT} | I_{ZT} | α_{VZ} | I_R / V_R | V_R | I_{ZM} |
|----------|-------------------|------|---------------------|----------|--------------------------------|--------------------|-------|----------|
| | min (V) | max | max (Ω) | (mA) | typ ($10^{-4}/^{\circ}C$) | max (μA) | (V) | (mA) |
| PL 3V3 Z | 3,1 | 3,5 | 10 | 100 | - 6 | | | 320 |
| PL 3V6 Z | 3,4 | 3,8 | 10 | 100 | - 5,5 | | | 290 |
| PL 3V9 Z | 3,7 | 4,1 | 10 | 100 | - 5 | | | 280 |
| PL 4V3 Z | 4,0 | 4,6 | 7 | 100 | - 4 | | | 250 |
| PL 4V7 Z | 4,4 | 5,0 | 7 | 100 | - 2 | | | 215 |
| PL 5V1 Z | 4,8 | 5,4 | 5 | 100 | 1 | | | 200 |
| PL 5V6 Z | 5,2 | 6,0 | 2 | 100 | 2,5 | | | 190 |
| PL 6V2 Z | 5,8 | 6,6 | 2 | 100 | 3,2 | | | 170 |
| PL 6V8 Z | 6,4 | 7,2 | 2 | 100 | 4 | | | 155 |
| PL 7V6 Z | 7,0 | 7,9 | 2 | 100 | 4,5 | 1 | 2 | 140 |
| PL 8V2 Z | 7,7 | 8,7 | 2 | 100 | 4,8 | 1 | 3,5 | 130 |
| PL 9V1 Z | 8,5 | 9,6 | 4 | 50 | 5,1 | 1 | 3,5 | 120 |
| PL 10 Z | 9,4 | 10,6 | 4 | 50 | 5,5 | 1 | 5 | 105 |
| PL 11 Z | 10,4 | 11,6 | 7 | 50 | 6 | 1 | 5 | 97 |
| PL 12 Z | 11,4 | 12,7 | 7 | 50 | 6,5 | 1 | 7 | 88 |
| PL 13 Z | 12,4 | 14,1 | 10 | 50 | 6,5 | 1 | 7 | 79 |
| PL 15 Z | 13,8 | 15,6 | 10 | 50 | 7 | 1 | 10 | 71 |
| PL 16 Z | 15,3 | 17,1 | 15 | 25 | 7 | 1 | 10 | 66 |
| PL 18 Z | 16,8 | 19,1 | 15 | 25 | 7,5 | 1 | 10 | 62 |
| PL 20 Z | 18,8 | 21,2 | 15 | 25 | 7,5 | 1 | 10 | 56 |
| PL 22 Z | 20,8 | 23,3 | 15 | 25 | 8 | 1 | 12 | 52 |
| PL 24 Z | 22,8 | 25,6 | 15 | 25 | 8 | 1 | 12 | 47 |
| PL 27 Z | 25,1 | 28,9 | 15 | 25 | 8,5 | 1 | 14 | 41 |
| PL 30 Z | 28 | 32 | 15 | 25 | 8,5 | 1 | 14 | 36 |
| PL 33 Z | 31 | 35 | 15 | 25 | 8,5 | 1 | 17 | 33 |
| PL 36 Z | 34 | 38 | 40 | 10 | 8,5 | 1 | 17 | 30 |
| PL 39 Z | 37 | 41 | 40 | 10 | 9 | 1 | 20 | 28 |
| PL 43 Z | 40 | 46 | 45 | 10 | 9 | 1 | 20 | 26 |
| PL 47 Z | 44 | 50 | 45 | 10 | 9 | 1 | 24 | 23 |
| PL 51 Z | 48 | 54 | 60 | 10 | 9 | 1 | 24 | 21 |
| PL 56 Z | 52 | 60 | 60 | 10 | 9 | 1 | 28 | 19 |
| PL 62 Z | 58 | 66 | 80 | 10 | 9 | 1 | 28 | 16 |
| PL 68 Z | 64 | 72 | 80 | 10 | 9 | 1 | 34 | 15 |
| PL 75 Z | 70 | 79 | 100 | 10 | 9 | 1 | 34 | 14 |
| PL 82 Z | 77 | 87 | 100 | 10 | 9 | 1 | 41 | 12 |
| PL 91 Z | 85 | 96 | 200 | 5 | 9 | 1 | 41 | 12 |
| PL 100 Z | 94 | 106 | 200 | 5 | 9 | 1 | 50 | 11 |
| PL 110 Z | 104 | 116 | 250 | 5 | 9,5 | 1 | 50 | 10 |
| PL 120 Z | 114 | 127 | 250 | 5 | 9,5 | 1 | 60 | 9 |
| PL 130 Z | 124 | 141 | 300 | 5 | 9,5 | 1 | 60 | 8 |
| PL 150 Z | 138 | 156 | 300 | 5 | 9,5 | 1 | 75 | 7 |
| PL 160 Z | 153 | 171 | 350 | 5 | 9,5 | 1 | 75 | 7 |
| PL 180 Z | 168 | 191 | 350 | 5 | 9,5 | 1 | 90 | 6 |
| PL 200 Z | 188 | 212 | 350 | 5 | 10 | 1 | 90 | 5 |

Forward voltage drop : $V_F \leq 1,5 V @ I_F = 200 mA, T_{amb} = 25^{\circ}C$
Chute de tension directe

CASE DESCRIPTION
DESCRIPTION DU BOITIER



F-126 (CB-210)

PL3V3Z → PL200Z

59C 02499 D T-11-15

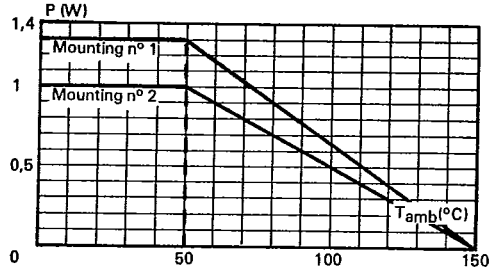


Fig. 1 - Maximum allowable power dissipation versus ambient temperature.

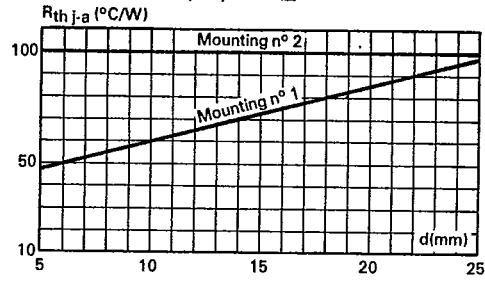
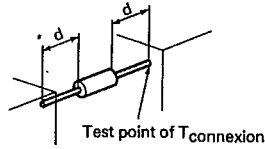


Fig. 2 - Thermal resistance junction-ambient versus lead length (typical values).

Mounting n° 1 : INFINITE HEATSINK



Mounting n° 2 : PRINTED CIRCUIT

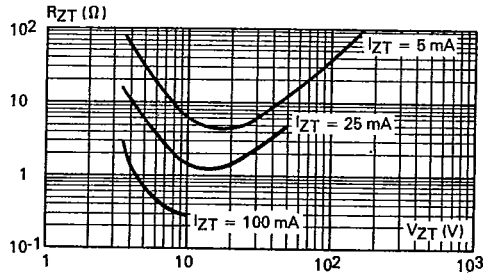
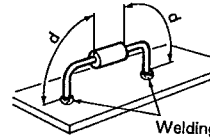


Fig. 3 - Differential resistance R_{ZT} versus V_{ZT} for different currents I_{ZT} (typical values).

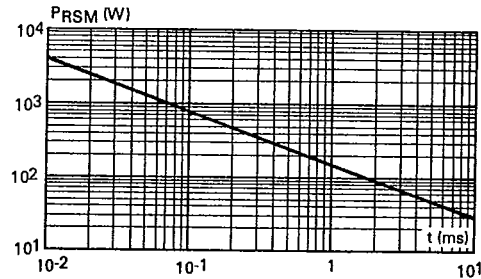


Fig. 4 - Non repetitive surge peak reverse power dissipation PR_{SM} versus pulse duration at T_j initial = 25°C (maximum values).

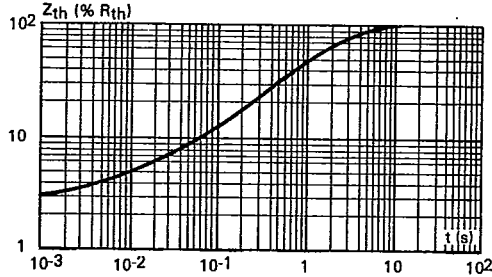


Fig. 5 - Transient thermal impedance junction-connections $Z_{th(j-a)}$ versus pulse duration for mounting n° 1 with $d = 10$ mm (typical values).

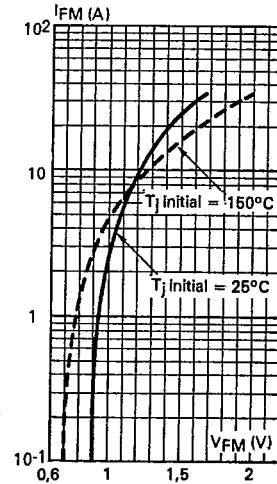


Fig. 6 - Peak forward current I_{FM} versus peak forward voltage drop V_{FM} (typical values).