



THOMSON-CSF

DIVISION SEMICONDUCTEURS DISCRETS

BY 218-100 → BY 218-600

59C 02095 D

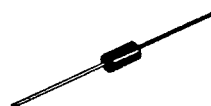
FAST RECOVERY RECTIFIER DIODES
DIODES DE REDRESSEMENT RAPIDE

FAST RECOVERY DIODES

- Soft recovery
- Small recovery charge

APPLICATIONS

- Switching diodes
- Free wheeling diodes
- Clamping diodes
- High frequency rectifier
- Low noise rectifier
- Transistor base drive circuits

 I_o 2 A/ $T_{amb} = 90^\circ\text{C}$ V_{RRM} 100 V to 600 V t_{rr} 200 nsCase
Boîtier : DO-27 A (CB-197) plasticABSOLUTE RATINGS (LIMITING VALUES)
VALEURS LIMITES ABSOLUES D'UTILISATION

	Symbols	BY 218-100 → BY 218-600	Units
Mean forward current on resistive load * <i>Courant moyen redressé sur charge résistive *</i>	I_o	$T_{amb} = 90^\circ\text{C} : 2$	A
D.C. forward current * <i>Courant direct continu *</i>	I_F	$T_{amb} = 90^\circ\text{C} : 2,3$	A
Non repetitive surge peak forward current ($t = 10$ ms) <i>Courant direct non répétitif de surcharge accidentelle</i>	I_{FSM}	T_j initial = $25^\circ\text{C} : 100$ T_j initial = $150^\circ\text{C} : 75$	A
I^2t for fusing ($t = 10$ ms) <i>Valeur de la constante I^2t pour $t = 10$ ms</i>	i^2t	T_j initial = $25^\circ\text{C} : 50$ T_j initial = $150^\circ\text{C} : 28$	A ² s
Load temperature for soldering for 3 s ($L_{lead} = 5$ mm) <i>Température des connexions pendant la soudure durant 3 s ($L_{con.} = 5$ mm)</i>	T_L	300	$^\circ\text{C}$
Storage and operating junction temperature range <i>Températures extrêmes de stockage et de jonction en fonctionnement</i>	T_{stg} T_j	-40 to $+150$	$^\circ\text{C}$

Symbols	BY 218-100	BY 218-200	BY 218-400	BY 218-600	Unit
$V_{RWM} = V_{RRM} = V_R$	100	200	400	600	V

Junction-ambient thermal resistance *
*Résistance thermique jonction-ambiante ** $R_{th(j-a)}$ 25 $^\circ\text{C/W}$ ELECTRICAL CHARACTERISTICS (maximum values)
CARACTERISTIQUES ÉLECTRIQUES (valeurs maximales)

Symbols	Values	Units	Test conditions			
V_{FM}	1,3	V	T_j initial = 25°C	$I_{FM} = 3$ A		
I_R	10	μA	$T_{amb} = 25^\circ\text{C}$	V_R specified <i>spécifié</i>		
t_{rr}	200	ns	T_j initial = 25°C	$I_F = 1$ A	$V_R = 30$ V	$di_F/dt = 25$ A/ μs $I_{RR} = 0,2 I_{RM}$

* on infinite heatsink with 10 mm lead length.

January 1982 1/3

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THOMSON
COMPOSANTS

BY 218-100 → BY 218-60C

59C 02096

DT-03-15

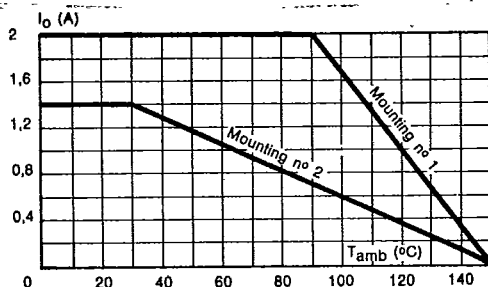


Fig. 1 - Mean forward current I_o versus ambient temperature (maximum values).

Mounting no 1 : INFINITE HEATSINK

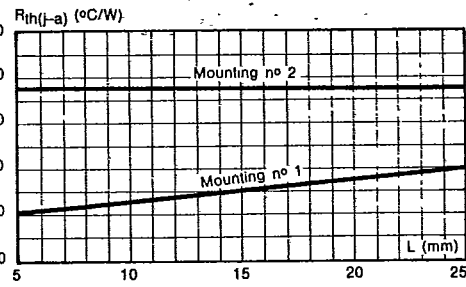
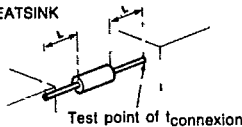


Fig. 2 - Thermal resistance junction-ambient versus lead length (maximum values).

Mounting no 2 : PRINTED CIRCUIT

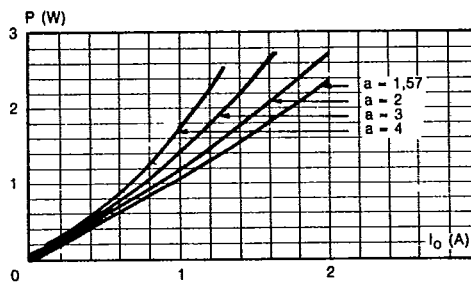
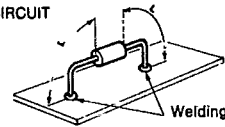


Fig. 3 - Mean power dissipation versus mean forward current I_o for different rectifying types :
1°) in the case of a resistive load ($a = 1.57$) with $a = \frac{J_F}{I_o}$
2°) in the case of capacitive load ($a > 1.57$)

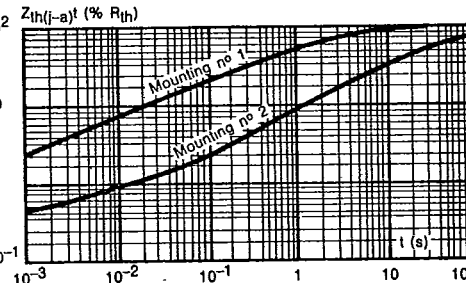


Fig. 4 - Transient thermal impedance junction-ambient $Z_{th(j-a)t}$ versus pulse duration t for mounting no 1 and $L = 10$ mm (typical values).

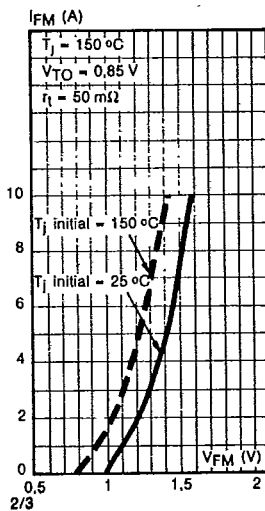


Fig. 5 - Peak forward current versus peak forward voltage drop at low level (maximum values)

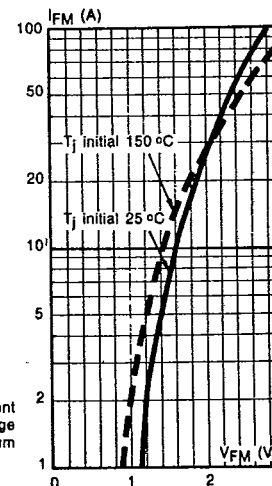


Fig. 6 - Peak forward current versus peak forward voltage drop at high level (maximum values).

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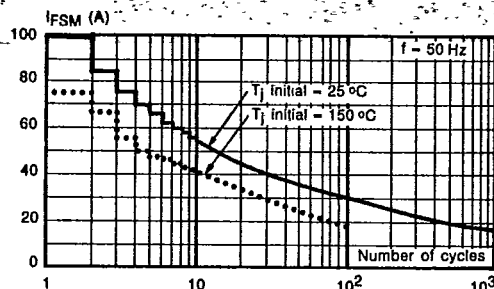


Fig. 7 - Non repetitive surge peak forward current versus number of cycles.

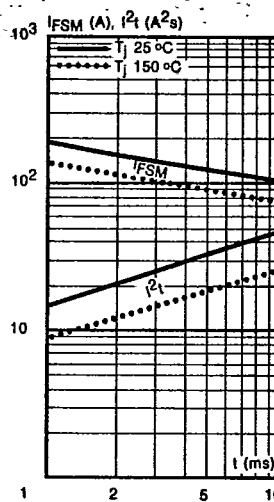


Fig. 8 - Non repetitive surge peak forward current for a sinusoidal pulse with width $t \leq 10$ ms, and corresponding value of I^2t .

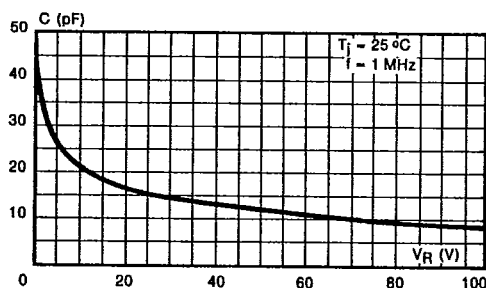


Fig. 9 - Capacity C versus reverse applied voltage V_R (typical values).

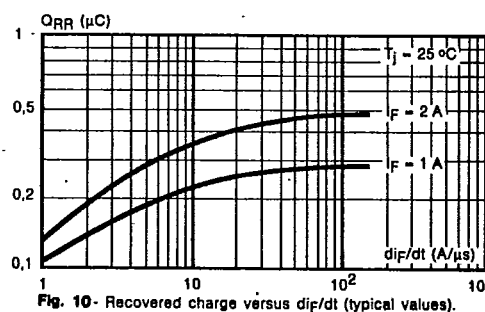
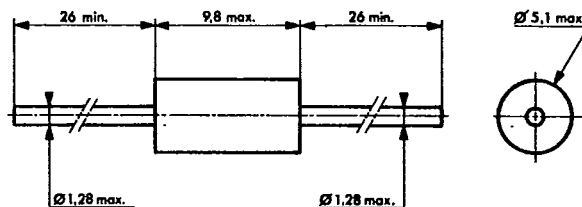


Fig. 10 - Recovered charge versus di_F/dt (typical values).

CASE DESCRIPTION DESCRIPTION DU BOITIER



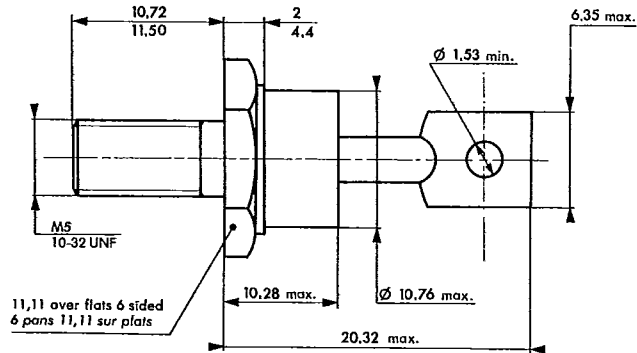
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D

T-33-01

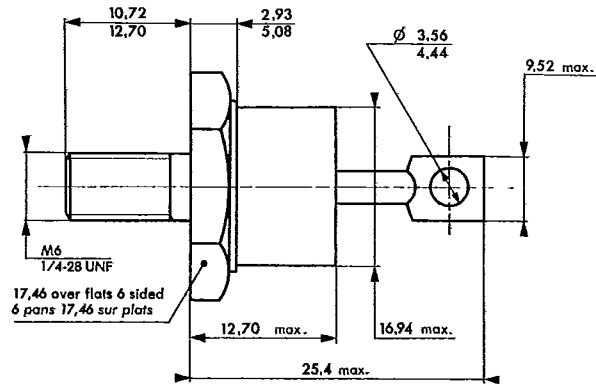
DO 4 (CB-33)

CB-33 M → $\phi W = M 5$
 U → $\phi W = 10-32 \text{ UNF}$

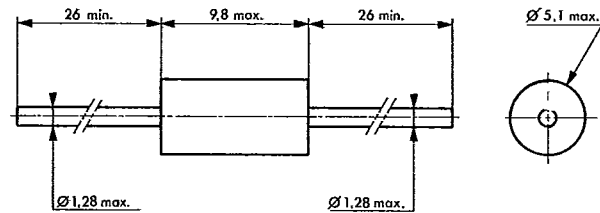


DO 5 (CB-34)

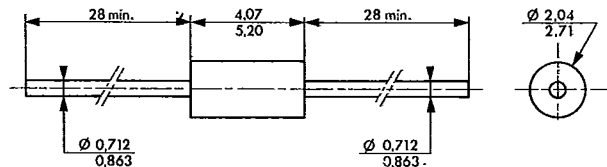
CB-34 M → $\phi W = M 6$
 U → $\phi W = 1/4-28 \text{ UNF}$

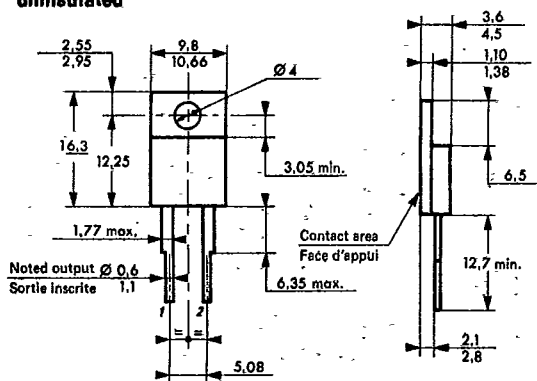
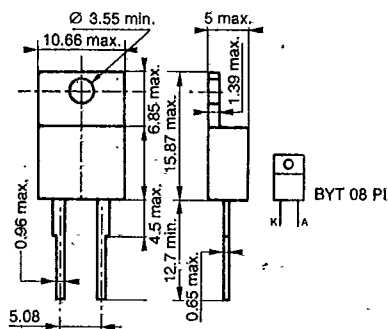
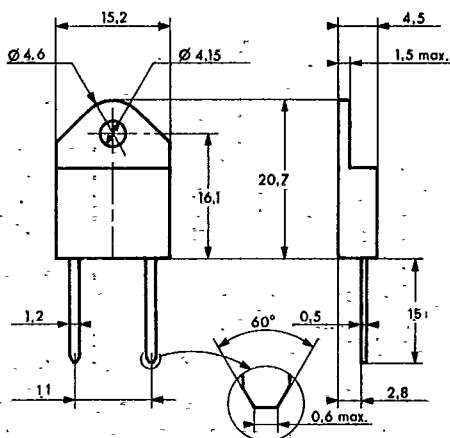
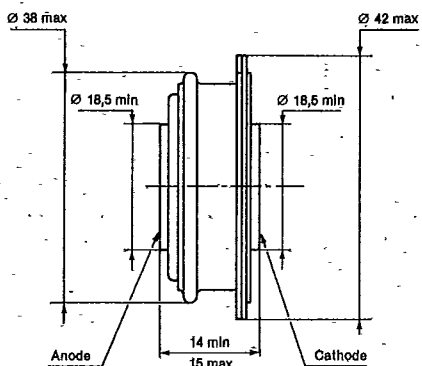
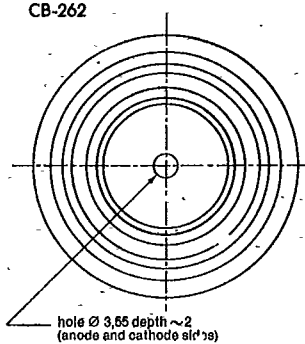


DO 27 A (CB-197)



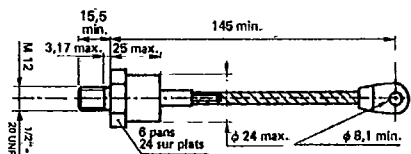
DO 41 (CB-101)



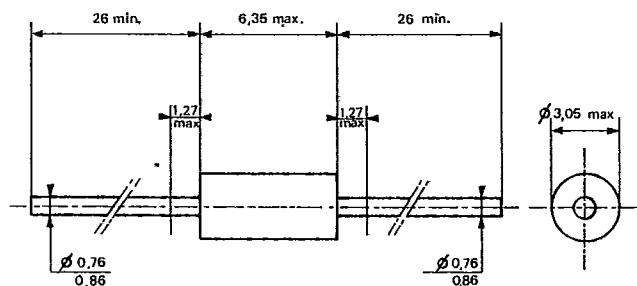
DO 220 AB (CB-227)
uninsulated**DO 220 AB (CB-426)**
insulated**DOP 3 (CB-425)****M 771**
(CB-262)**CB-262**

M 771 CASE OUTLINE

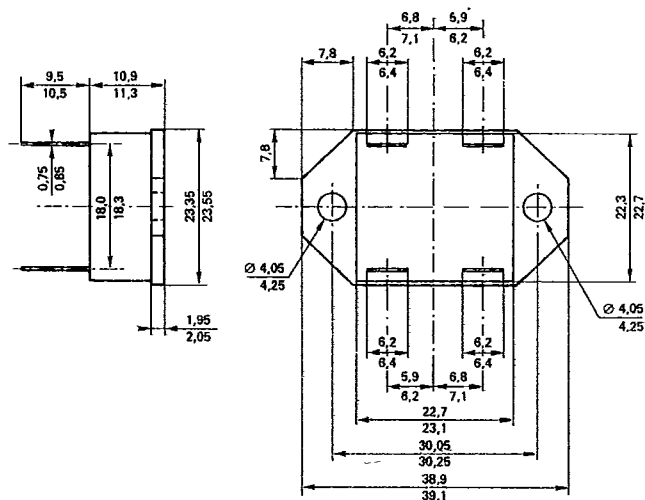
F62 m (CB-252)



F 126 (CB-210)



CB-427



1	2
4	3

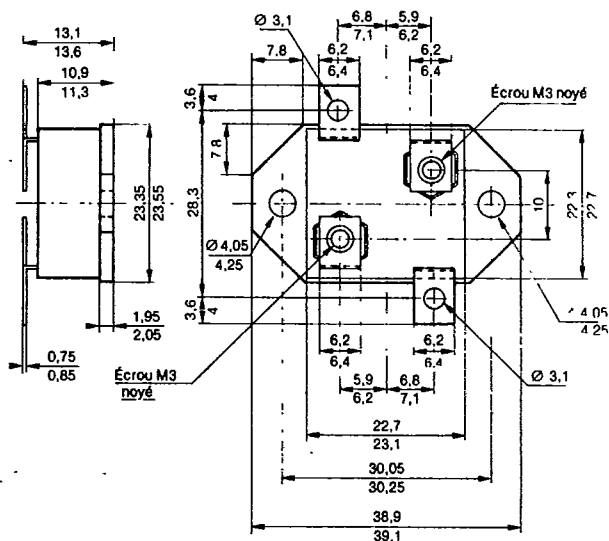
Marking : clear
Marquage : en clairNote : Pin 3 may be omitted
La broche 3 peut être omise

CB-434

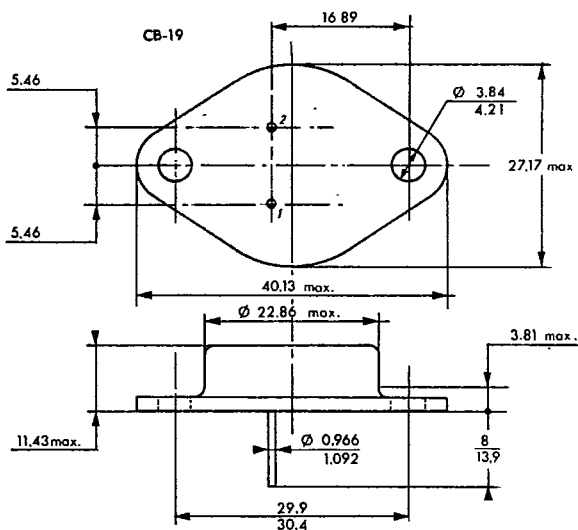
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TO 3 modified (CB-19)



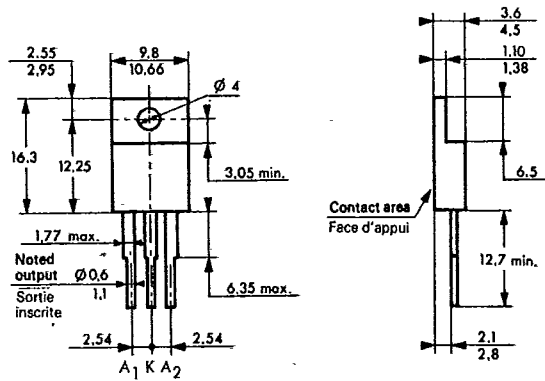
0842

D-11

400

TO 220 AB (CB-428)
for duo-diodes

T-33-01



CB-244 (TOP 3 - TO 218)

