

RECTIFIER DIODES

Also available to BS9331-F026

Silicon rectifier diodes in DO-5 metal envelopes, intended for use in power rectifier applications.

The series consists of the following types:

Normal polarity (cathode to stud): BYX52-300, BYX52-600, BYX52-1200.

Reverse polarity (anode to stud): BYX52-300R, BYX52-600R, BYX52-1200R.

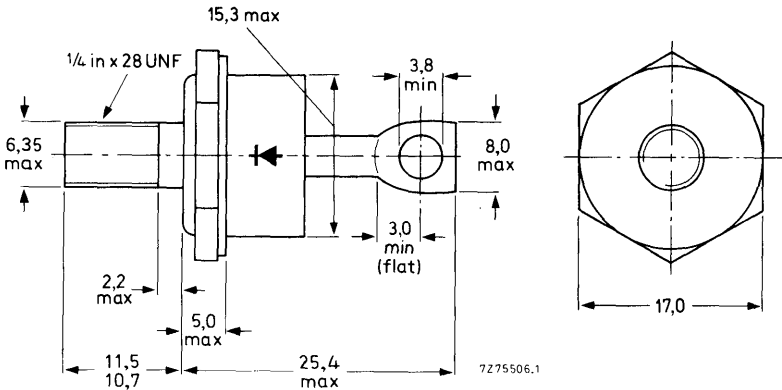
QUICK REFERENCE DATA

		BYX52-300(R)	600(R)	1200(R)	
Repetitive peak reverse voltage	$V_{RRM}$	max. 300	600	1200	V
Average forward current		$I_{F(AV)}$	max. 48		A
Non-repetitive peak forward current		$I_{FSM}$	max. 800		A

MECHANICAL DATA

Dimensions in mm

DO-5; Supplied with device: 1 nut, 1 lock-washer  
 Nut dimensions across the flats: 11,1 mm



Net mass: 22 g

Diameter of clearance hole: max. 6,5 mm

Accessories supplied on request:

56264A (mica washer, insulating ring, tag)

Torque on nut: min. 1,7 Nm  
 (17 kg cm)  
 max. 3,5 Nm  
 (35 kg cm)

The mark shown applies to the normal polarity types.

**RATINGS** Limiting values in accordance with the Absolute Maximum System (IEC 134)

Voltages

		BYX52-300(R)	600(R)	1200(R)	
Non-repetitive peak reverse voltage ( $t \leq 10$ ms)	$V_{RSM}$	max. 300	600	1200	V
Repetitive peak reverse voltage ( $\delta = 0.01$ )	$V_{RRM}$	max. 300	600	1200	V
Crest working reverse voltage	$V_{RWM}$	max. 200	400	800	V

Currents

Average forward current (averaged over any 20 ms period) up to $T_{mb} = 112$ °C	$I_{F(AV)}$	max.	48	A
at $T_{mb} = 125$ °C	$I_{F(AV)}$	max.	40	A
R.M.S. forward current	$I_{F(RMS)}$	max.	75	A
Repetitive peak forward current	$I_{FRM}$	max.	450	A
Non-repetitive peak forward current ( $t = 10$ ms; half-sinewave) $T_j = 175$ °C prior to surge	$I_{FSM}$	max.	800	A
$I^2t$ for fusing ( $t = 10$ ms)	$I^2t$	max.	3200	A <sup>2</sup> s

Temperatures

Storage temperature	$T_{stg}$	-55 to +175	°C
Junction temperature	$T_j$	max. 175	°C

**THERMAL RESISTANCE**

From junction to mounting base	$R_{th\ j-mb}$	=	0.8	°C/W
From mounting base to heatsink	$R_{th\ mb-h}$	=	0.2	°C/W

**CHARACTERISTICS**

Forward voltage

$I_F = 150$ A; $T_j = 25$ °C	$V_F$	<	1.8	V <sup>1)</sup>
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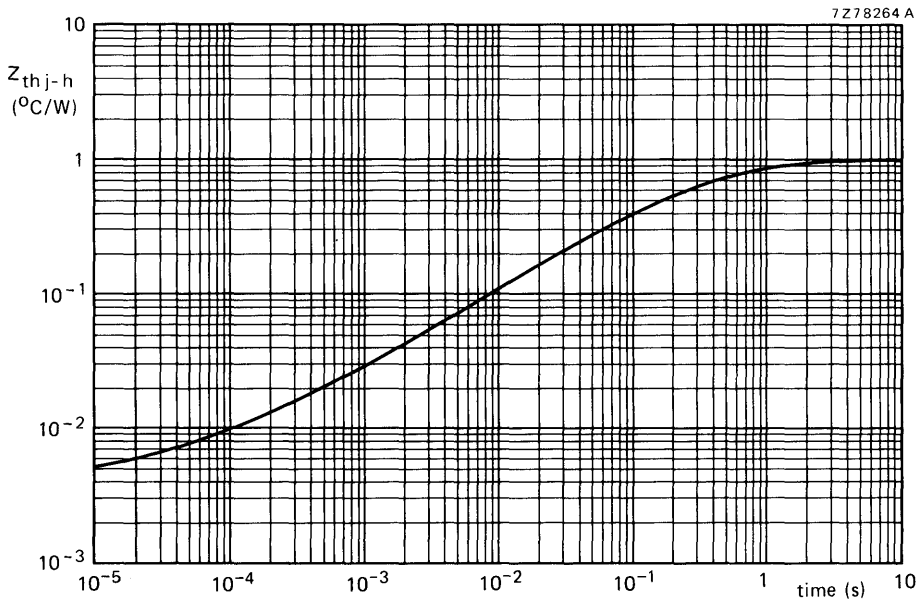
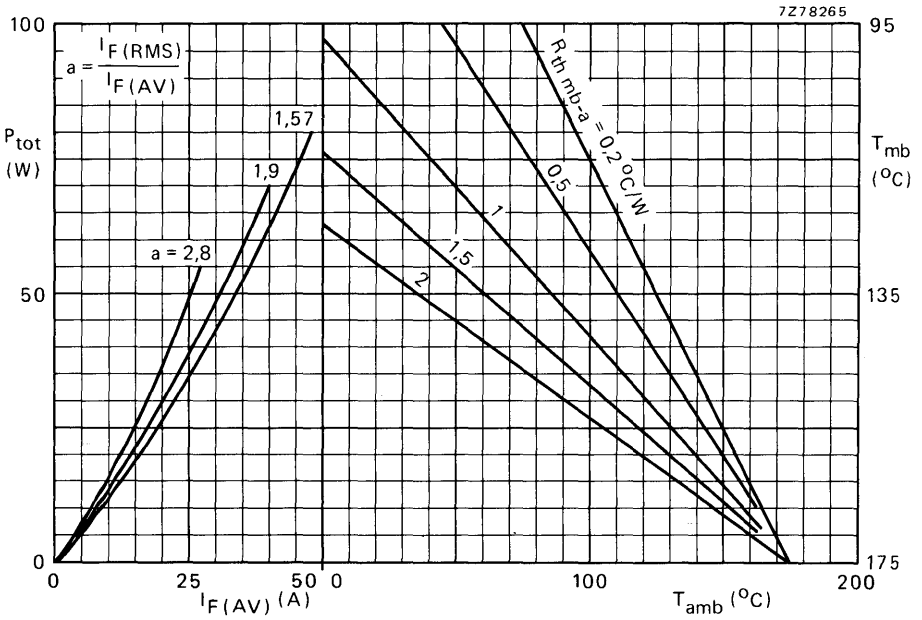
Reverse current

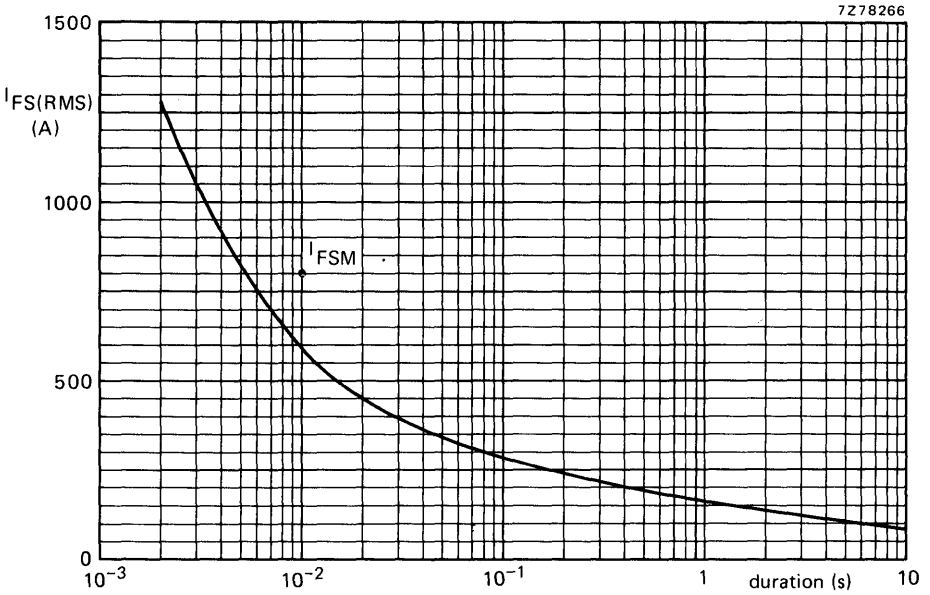
$V_R = V_{RWM}$ max; $T_j = 125$ °C	$I_R$	<	1.6	mA
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**OPERATING NOTES**

The top connector should neither be bent nor twisted; it should be soldered into the circuit so there is no strain on it.

<sup>1)</sup> Measured under pulse conditions to avoid excessive dissipation.





Maximum permissible non-repetitive r.m.s. forward current based on sinusoidal currents ( $f = 50$  Hz);  $T_j = 175$  °C prior to surge; with reapplied  $V_{RWMmax}$ .

