

SILICON RECTIFIER DIODES



Diffused silicon rectifier diodes in DO-4 metal envelopes, intended for power rectifier applications.

The series consists of the following types:

Normal polarity (cathode to stud): BYX42-300 to 1200.

Reserve polarity (anode to stud): BYX42-300R to 1200R.

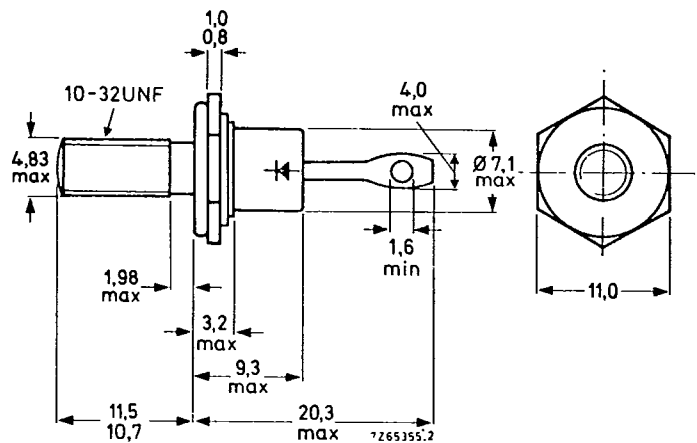
QUICK REFERENCE DATA

		BYX42-300(R)	600(R)	1200(R)
Repetitive peak reverse voltage	V_{RRM}	max. 300	600	1200 V
Average forward current	$I_{F(AV)}$	max. 12		A
Non-repetitive peak forward current	I_{FSM}	max. 125		A

MECHANICAL DATA

Dimensions in mm

DO-4



Net mass: 6 g

Diameter of clearance hole: 5,2 mm

Accessories supplied on request:
see ACCESSORIES section

Torque on nut: min. 0,9 Nm
(9 kg cm)
max. 1,7 Nm
(17 kg cm)

Supplied with device: 1 nut, 1 lock washer

Nut dimensions across the flats: 9,5 mm

The mark shown applies to normal polarity types.



Products approved to CECC 50 009-020 available on request.

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

Voltages		BYX42-300(R)	600(R)	1200(R)	
Non-repetitive peak reverse voltage (t ≤ 10 ms)	V _{RSM}	max. 300	600	1200	V
Repetitive peak reverse voltage (δ ≤ 0,01)	V _{RRM}	max. 300	600	1200	V
Crest working reverse voltage	V _{RWM}	max. 200	400	800	V
Continuous reverse voltage	V _R	max. 200	400	800	V

Currents

Average forward current (averaged over any 20 ms period) up to T _{mb} = 115 °C at T _{mb} = 125 °C	I _{F(AV)}	max.	12	A
	I _{F(AV)}	max.	10	A
R. M. S. forward current	I _{F(RMS)}	max.	20	A
Repetitive peak forward current	I _{FRM}	max.	60	A
Non-repetitive peak forward current (t = 10 ms; half sine-wave) T _j = 175 °C prior to surge; with reapplied V _{RWMmax}	I _{FSM}	max.	125	A

Temperatures

Storage temperature	T _{stg}	-55 to +175	°C
Junction temperature	T _j	max. 175	°C

THERMAL RESISTANCE

From junction to ambient in free air	R _{th j-a}	=	50	°C/W
From junction to mounting base	R _{th j-mb}	=	3	°C/W
From mounting base to heatsink	R _{th mb-h}	=	0,5	°C/W

CHARACTERISTICS

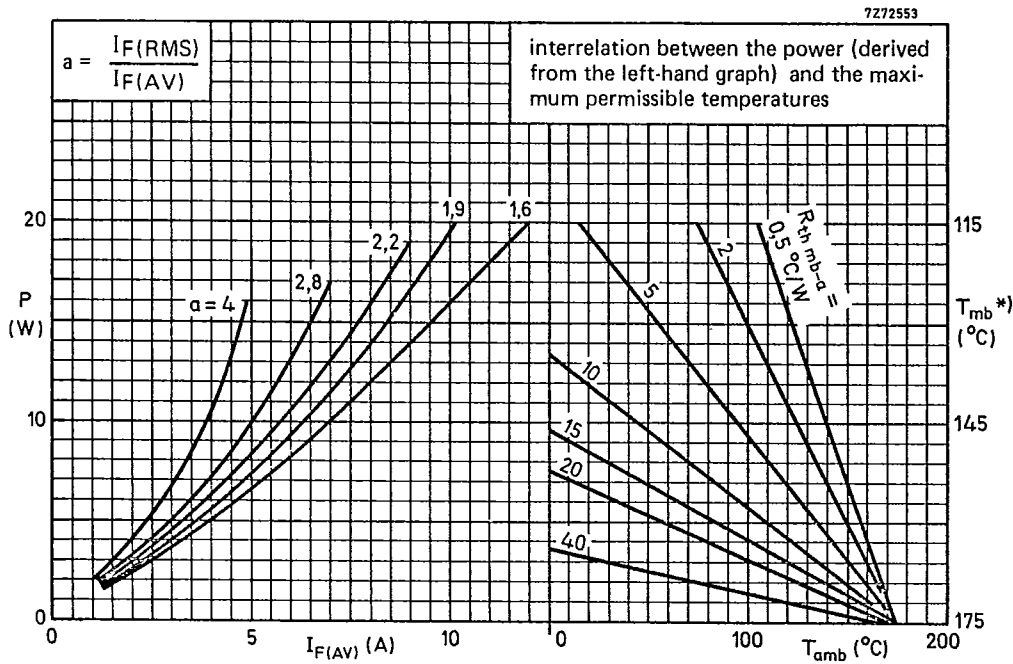
Forward voltage at I _F = 15 A; T _j = 25 °C	V _F	<	1,4	V ¹⁾
Reverse current at V _R = V _{RWMmax} ; T _j = 125 °C	I _R	<	200	μA

MOUNTING INSTRUCTIONS

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

During soldering the heat conduction to the junction should be kept to a minimum.

1) Measured under pulse conditions to avoid excessive dissipation.



*) T_{mb} -scale is for comparison purposes only and is correct only for $R_{th\ mb-a} \leq 22\ ^\circ\text{C}/\text{W}$

