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BYX98 SERIES

RECTIFIER DIODES

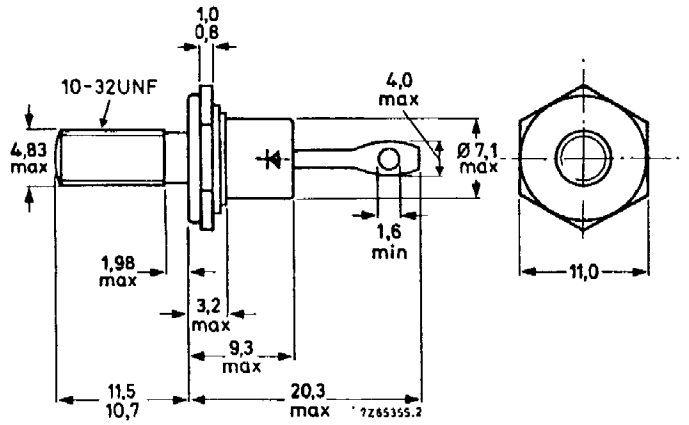
Silicon rectifier diodes in DO-4 metal envelopes, intended for use in power rectifier applications.
The series consists of the following types:
Normal polarity (cathode to stud): BYX98-300 to 1200.
Reverse polarity (anode to stud): BYX98-300R to 1200R.

QUICK REFERENCE DATA

		BYX98-300(R)	600(R)	1200(R)	
Repetitive peak reverse voltage	V_{RRM}	max. 300	600	1200	V
Average forward current	$I_{F(AV)}$	max.		10	A
Non-repetitive peak forward current	I_{FSM}	max.		75	A

MECHANICAL DATA — Dimensions in mm

DO-4: Supplied with device: 1 nut, 1 lock-washer
Nut dimensions across the flats: 9.5 mm



Net mass: 6 g
Diameter of clearance hole: max. 5.2 mm
Accessories supplied on request:
see ACCESSORIES section
The mark shown applies to normal polarity types.

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

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

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BYX98
SERIES

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

Voltages		BYX98-	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 ($\delta \leq 0,01$)	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} = 97 °C	$I_{F(AV)}$	max.	10	A
at T_{mb} = 125 °C	$I_{F(AV)}$	max.	6	A
R.M.S. forward current	$I_{F(RMS)}$	max.	16	A
Repetitive peak forward current	I_{FRM}	max.	75	A
Non-repetitive peak forward current (t = 10 ms; half sine-wave) T_j = 150 °C prior to surge; with reapplied V_{RWMmax}	I_{FSM}	max.	75	A
I^2t for fusing (t = 10 ms)	I^2t	max.	28	A^2s

Temperatures				
Storage temperature	T_{stg}		−55 to + 150	°C
Junction temperature	T_j	max.	150	°C

THERMAL RESISTANCE				
From junction to ambient in free air	$R_{th\ j\text{-}a}$	=	50	°C/W
From junction to mounting base	$R_{th\ j\text{-}mb}$	=	3	°C/W
From mounting base to heatsink with heatsink compound	$R_{th\ mb\text{-}h}$	=	0,5	°C/W
without heatsink compound	$R_{th\ mb\text{-}h}$	=	0,6	°C/W
Transient thermal impedance; t = 1 ms	$Z_{th\ j\text{-}mb}$	=	0,3	°C/W

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CHARACTERISTICS

Forward voltage

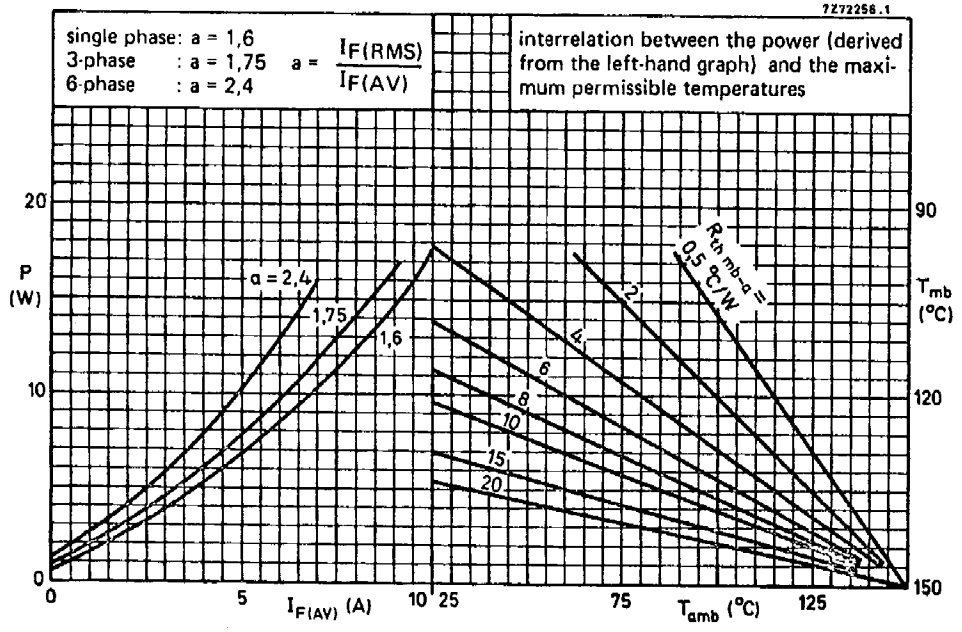
I_F = 20 A; T_j = 25 °C	V_F	<	1,7	V 1)

Reverse current

$V_R = V_{RWMmax}$; T_j = 125 °C	I_R	<	200	μA

OPERATING NOTES

1. 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.
2. Where there is a possibility that transients, due to the energy stored in the transformer, will exceed the maximum permissible non-repetitive peak reverse voltage, see General Section for information on damping circuits.



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