BYQ28X series

GENERAL DESCRIPTION

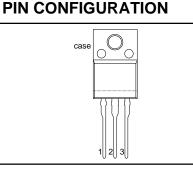
Glass passivated dual epitaxial rectifier diodes in a full pack plastic envelope, featuring low forward voltage drop, ultra-fast recovery times and soft recovery characteristic. They are intended for use in switched mode power supplies and high frequency circuits in general where low conduction and switching losses are essential.

QUICK REFERENCE DATA

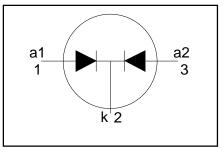
SYMBOL	PARAMETER	MAX.	MAX.	MAX.	UNIT
V _{RRM}	BYQ28X- Repetitive peak reverse	100 100	150 150	200 200	V
V _F I _{O(AV)}	voltage Forward voltage Output current (both	0.895 10	0.895 10	0.895 10	V A
t _{rr}	diodes conducting) Reverse recovery time	25	25	25	ns

PINNING - SOT186A

PIN	DESCRIPTION
1	anode 1 (a)
2	cathode (k)
3	anode 2 (a)
case	isolated



SYMBOL



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.		MAX.		UNIT
V _{RRM} V _{RWM} V _R	Repetitive peak reverse voltage Crest working reverse voltage Continuous reverse voltage		- - -	-100 100 100 100	-150 150 150 150	-200 200 200 200	V V V
I _{O(AV)}	Output current (both diodes conducting) ²	square wave $\delta = 0.5$; T _{hs} ≤ 92 °C sinusoidal a = 1.57; T _{hs} ≤ 95 °C	-		10 9	-	A A
I _{O(RMS)} I _{FRM}	per diode	t = 25 μs; $δ = 0.5$; T _{hs} \le 92 °C	-		14 10		A A
I _{FSM}	Non-repetitive peak forward current per diode	t = 10 ms t = 8.3 ms sinusoidal; with reapplied	-		50 55		A A
l ² t T _{stg} T _j	I ² t for fusing Storage temperature Operating junction temperature	V _{RWM(max)} t = 10 ms	- -40 -		12.5 150 150		A ² s °C °C

¹ $T_{hs} \le 148^{\circ}C$ for thermal stability.

² Neglecting switching and reverse current losses

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ISOLATION LIMITING VALUE & CHARACTERISTIC

 $T_{hs} = 25$ °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V _{isol}	R.M.S. isolation voltage from all three terminals to external heatsink	f = 50-60 Hz; sinusoidal waveform; R.H. \leq 65% ; clean and dustfree	-		2500	V
C _{isol}	Capacitance from T2 to external heatsink	f = 1 MHz	-	10	-	pF

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
R _{th j-hs} R _{th j-a}	heatsink	with heatsink compound without heatsink compound in free air		- - 55	5.7 6.7 -	K/W K/W K/W

STATIC CHARACTERISTICS

 $T_i = 25$ °C unless otherwise stated

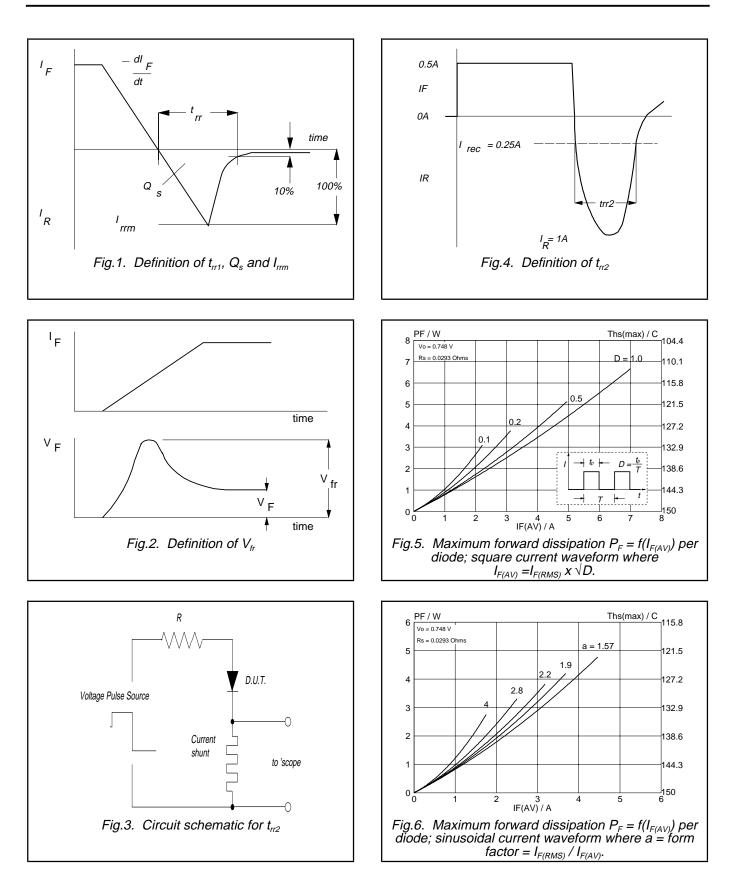
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V _F	Forward voltage (per diode)	$I_{F} = 5 A; T_{j} = 150^{\circ}C$	-	0.80	0.895	V
		$I_{F} = 5 A$ $I_{F} = 10 A$	-	0.95 1.10	1.10 1.25	
I _R	Reverse current (per diode)	$V_R = V_{RWM}$; $T_j = 100 \degree C$	-	0.1	0.2	mA
		$V_{R} = V_{RWM}$	-	2	10	μΑ

DYNAMIC CHARACTERISTICS

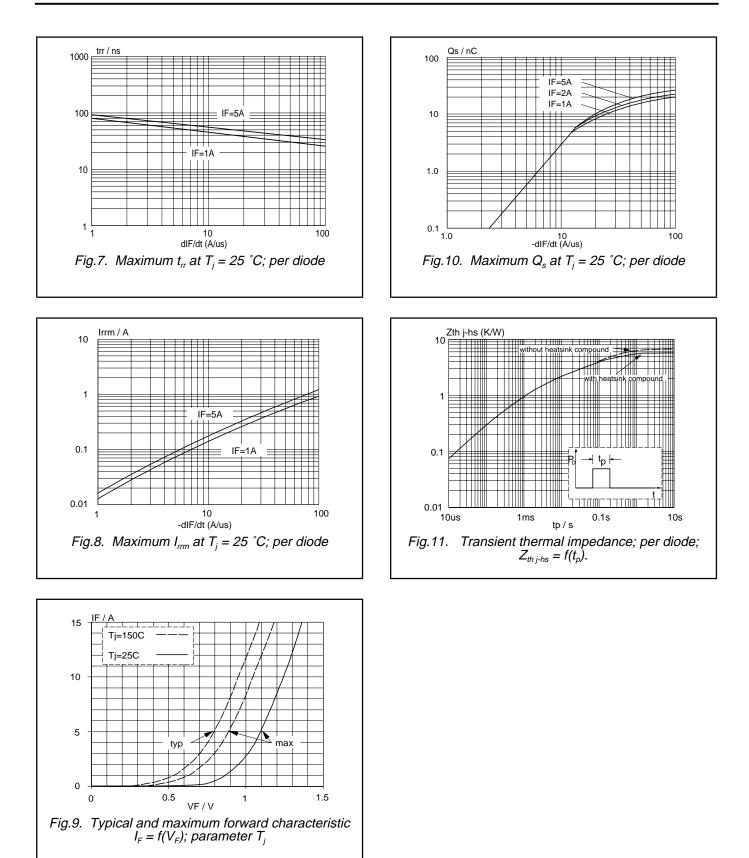
 $T_i = 25$ °C unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Q _s	Reverse recovery charge (per diode)	$I_F = 2 \text{ A}; V_R \ge 30 \text{V}; -\text{d}I_F/\text{d}t = 20 \text{A}/\mu\text{s}$	-	4	9	nC
t _{rr1}	Reverse recovery time (per diode)	I _F = 1 A; V _R ≥ 30 V; -dI _F /dt = 100 A/μs	-	15	25	ns
t _{rr2}	Reverse recovery time (per diode)	$I_{\rm F} = 0.5 \text{ A to } I_{\rm R} = 1 \text{ A}; I_{\rm rec} = 0.25 \text{ A}$	-	10	20	ns
V _{fr}	Forward recovery voltage (per diode)	$I_{F} = 1 \text{ A}; \text{ d}I_{F}/\text{d}t = 10 \text{ A}/\mu\text{s}$	-	1	-	V

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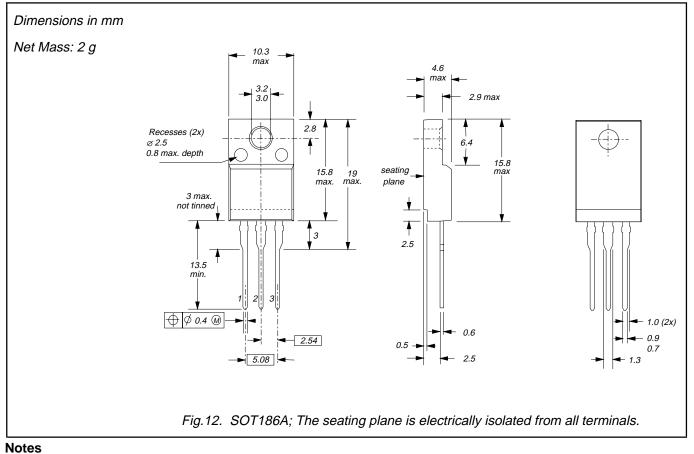
BYQ28X series



Product specification

BYQ28X series

MECHANICAL DATA



Refer to mounting instructions for F-pack envelopes.
Epoxy meets UL94 V0 at 1/8".

BYQ28X series

DEFINITIONS

Data sheet status			
Objective specification	This data sheet contains target or goal specifications for product development.		
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.		
Product specification	This data sheet contains final product specifications.		
Limiting values			
Limiting values are given in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of this specification is not implied. Exposure to limiting values for extended periods may affect device reliability.			
Application information			
Where application information is given, it is advisory and does not form part of the specification.			
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