

**Fast soft-recovery  
 controlled avalanche rectifiers**

**BYW95 series**

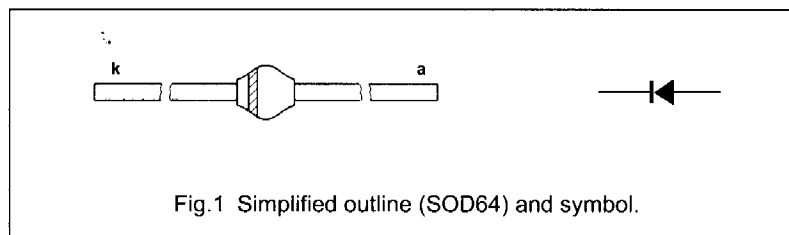
**FEATURES**

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Guaranteed avalanche energy absorption capability
- Available in ammo-pack
- Also available with preformed leads for easy insertion.

**DESCRIPTION**

Rugged glass SOD64 package, using a high temperature alloyed

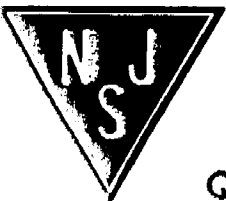
construction. This package is hermetically sealed and fatigue free as coefficients of expansion of all used parts are matched.



**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>RRM</sub>	repetitive peak reverse voltage				
	BYW95A		–	200	V
	BYW95B		–	400	V
	BYW95C		–	600	V
V <sub>R</sub>	continuous reverse voltage				
	BYW95A		–	200	V
	BYW95B		–	400	V
	BYW95C		–	600	V
I <sub>F(AV)</sub>	average forward current	T <sub>tp</sub> = 60 °C; lead length = 10 mm see Fig.2; averaged over any 20 ms period; see also Fig.6	–	3.00	A
		T <sub>amb</sub> = 65 °C; PCB mounting (see Fig.11); see Fig.3; averaged over any 20 ms period; see also Fig.6	–	1.25	A
I <sub>FRM</sub>	repetitive peak forward current	T <sub>tp</sub> = 60 °C; see Fig.4	–	30	A
		T <sub>amb</sub> = 65 °C; see Fig.5	–	13	A
I <sub>FSM</sub>	non-repetitive peak forward current	t = 10 ms half sine wave; T <sub>j</sub> = T <sub>j max</sub> prior to surge; V <sub>R</sub> = V <sub>RRMmax</sub>	–	70	A
E <sub>RSM</sub>	non-repetitive peak reverse avalanche energy	L = 120 mH; T <sub>j</sub> = T <sub>j max</sub> prior to surge; inductive load switched off	–	10	mJ
T <sub>stg</sub>	storage temperature		–65	+175	°C
T <sub>j</sub>	junction temperature	see Fig.7	–65	+175	°C



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**ELECTRICAL CHARACTERISTICS**

$T_j = 25\text{ °C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT	
$V_F$	forward voltage	$I_F = 5\text{ A}; T_j = T_{j\text{ max}}; \text{ see Fig.8}$	–	–	1.25	V	
		$I_F = 5\text{ A}; \text{ see Fig.8}$	–	–	1.50	V	
$V_{(BR)R}$	reverse avalanche breakdown voltage	$I_R = 0.1\text{ mA}$					
			BYW95A	300	–	–	V
			BYW95B	500	–	–	V
	BYW95C	700	–	–	V		
$I_R$	reverse current	$V_R = V_{RRM\text{ max}}; \text{ see Fig.9}$	–	–	1	$\mu\text{A}$	
		$V_R = V_{RRM\text{ max}}; T_j = 165\text{ °C}; \text{ see Fig.9}$	–	–	150	$\mu\text{A}$	
$t_{rr}$	reverse recovery time	when switched from $I_F = 0.5\text{ A}$ to $I_R = 1\text{ A}$ ; measured at $I_R = 0.25\text{ A}$ ; see Fig.12	–	–	250	ns	
$C_d$	diode capacitance	$f = 1\text{ MHz}; V_R = 0\text{ V}; \text{ see Fig.10}$	–	85	–	pF	
$\left  \frac{dI_R}{dt} \right $	maximum slope of reverse recovery current	when switched from $I_F = 1\text{ A}$ to $V_R \geq 30\text{ V}$ and $dI_F/dt = -1\text{ A}/\mu\text{s}$ ; see Fig.13	–	–	7	$\text{A}/\mu\text{s}$	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-tp}}$	thermal resistance from junction to tie-point	lead length = 10 mm	25	K/W
$R_{th\ j\text{-a}}$	thermal resistance from junction to ambient	note 1	75	K/W