

Silicon Diode

BY578

1700V/2.5A

DATASHEET

OEM – Philips

Source: Philips Databook 1999

Damper diodes

BY558; BY578

FEATURES

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Also available with preformed leads for easy insertion
- Designed to withstand transients up to 1700 V.

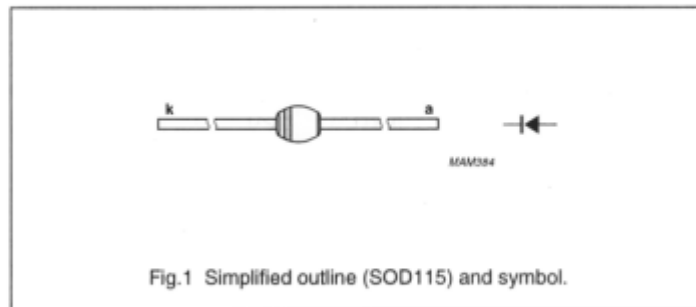
APPLICATIONS

- For use in multi-sync monitor horizontal deflection circuits

DESCRIPTION

Rugged glass 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_{RSM}	non-repetitive peak reverse voltage				
	BY558		–	1500	V
	BY578		–	1700	V
V_{RRM}	repetitive peak reverse voltage				
	BY558		–	1500	V
	BY578		–	1700	V
V_R	continuous reverse voltage		–	1400	V
$I_{F(AV)}$	average forward current	$T_{ip} = 65\text{ °C}$; see Fig.2; PCB mounting; averaged over any 20 ms period; see Fig.4	–	2.5	A
I_{FRM}	repetitive peak forward current		–	12	A
I_{FSM}	non-repetitive peak forward current	$t = 10\text{ ms}$ half sine wave; $T_j = T_{jmax}$ prior to surge; $V_R = V_{RRMmax}$	–	80	A
T_{stg}	storage temperature		–65	+175	°C
T_j	junction temperature		–65	+150	°C

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_F	forward voltage	$I_F = 5\text{ A}$; $T_j = T_{j\text{max}}$; see Fig.3	–	1.3	V
		$I_F = 5\text{ A}$; see Fig.3	–	1.7	V
I_R	reverse current	$V_R = V_{RRM\text{max}}$; $T_j = 150\text{ °C}$	–	175	μA
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.6	–	250	ns
V_{FRM}	forward recovery voltage	$I_F = 5\text{ A}$; $di_F/dt = 50\text{ A}/\mu\text{s}$; see Fig.5	15	20	V
t_{fr}	forward recovery time	$I_F = 5\text{ A}$; $di_F/dt = 50\text{ A}/\mu\text{s}$; $V_F = 5\text{ V}$; see Fig.5	260	350	ns
		$I_F = 5\text{ A}$; $di_F/dt = 50\text{ A}/\mu\text{s}$; $V_F = 2\text{ V}$; see Fig.5	700	–	ns

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\text{ j-tp}}$	thermal resistance from junction to tie-point	lead length = 10 mm	20	K/W
$R_{th\text{ j-a}}$	thermal resistance from junction to ambient	note 1	70	K/W

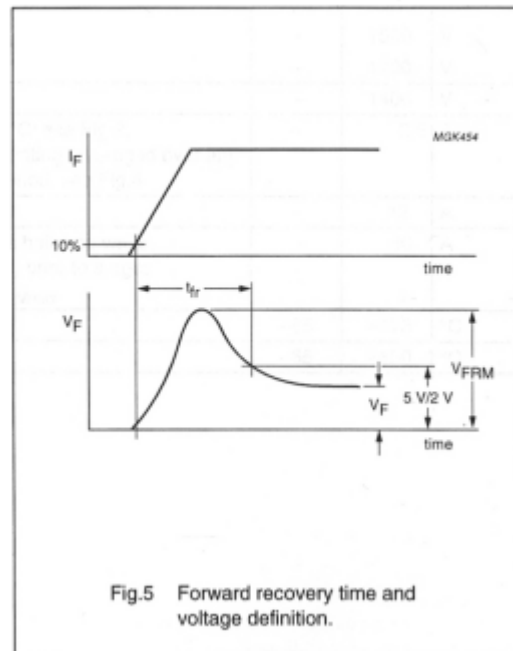
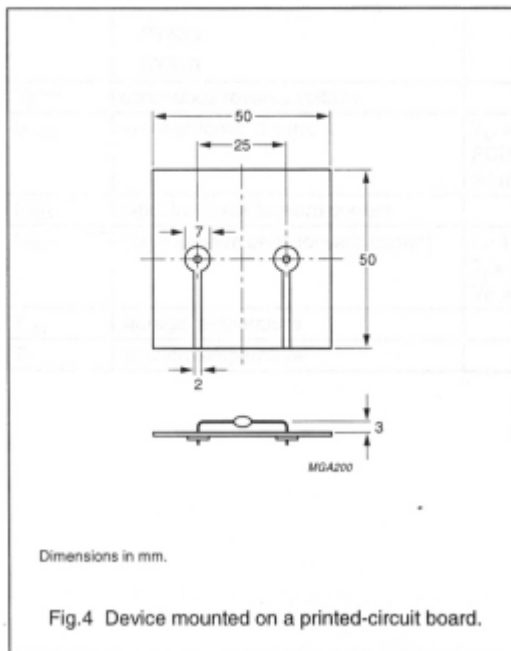
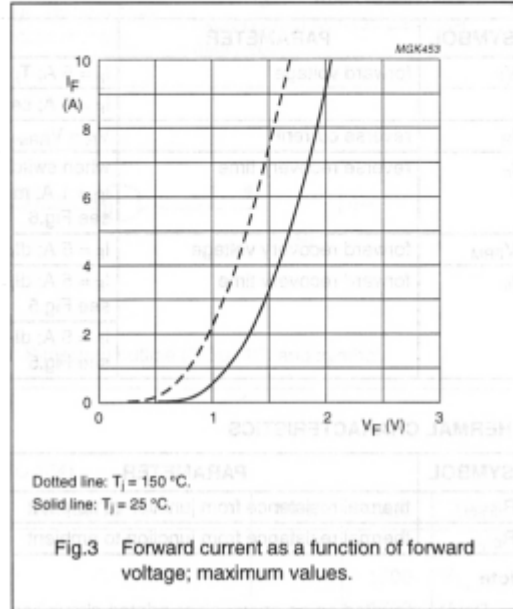
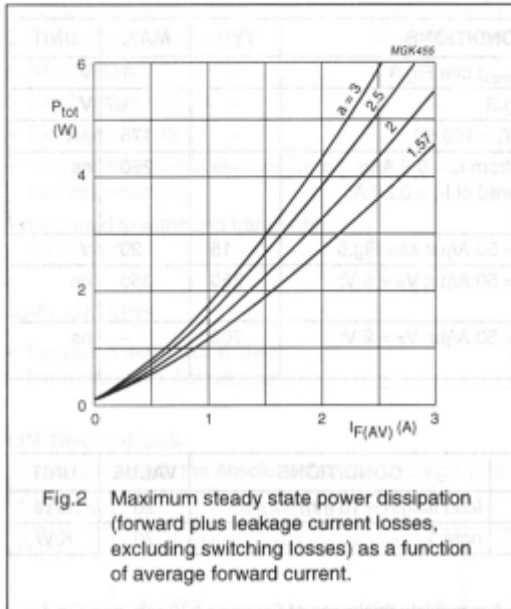
Note

1. Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of Cu-layer $\geq 40\text{ }\mu\text{m}$, see Fig.4. For more information please refer to the 'General Part of Handbook SC01'.

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GRAPHICAL DATA



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