Silicon Diode

BY359F-1500

1500V/10A

DATASHEET

OEM – Philips

Source: Philips Databook 1999

Damper diode
fast, high-voltage

BY359F-1500, BY359F-1500S

STATIC CHARACTERISTICS

T_j = 25 ˚C unless otherwise stated

			BY359F-1500		BY359F-1500S		
SYMBOL	**PARAMETER**	**CONDITIONS**	**TYP.**	**MAX.**	**TYP.**	**MAX.**	**UNIT**
V_F	Forward voltage	I_F = 20 A	1.3	1.8	1.5	2.0	V
		I_F = 10 A; T_j = 150˚C	1.00	1.5	1.25	1.75	V
I_R	Reverse current	V_R = 1300 V	10	100	10	100	µA
		V_R = 1300 V; T_j = 100 ˚C	50	300	100	600	µA

DYNAMIC CHARACTERISTICS

T_j = 25 ˚C unless otherwise stated

			BY359F-1500		BY359F-1500S		
SYMBOL	**PARAMETER**	**CONDITIONS**	**TYP.**	**MAX.**	**TYP.**	**MAX.**	**UNIT**
t_{rr}	Reverse recovery time	I_F = 2 A; $V_R \geq$ 30 V;	0.47	0.60	0.28	0.35	µs
Q_s	Reverse recovery charge	$-dI_F/dt$ = 20 A/µs	1.6	2.0	0.70	0.95	µC
V_{fr}	Peak forward recovery voltage	I_F = 10 A; dI_F/dt = 30 A/µs	11.0	-	17.0	-	V

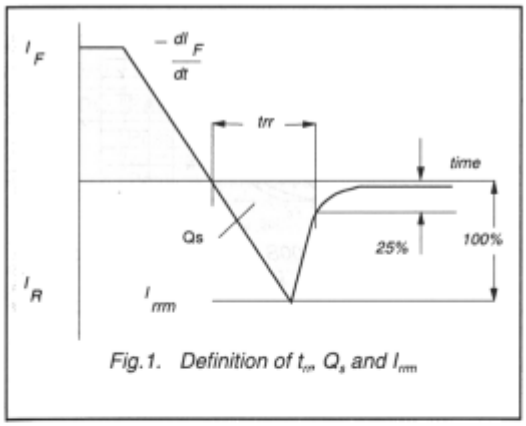

Fig.1. Definition of t_{rr}, Q_s and I_{rrm}

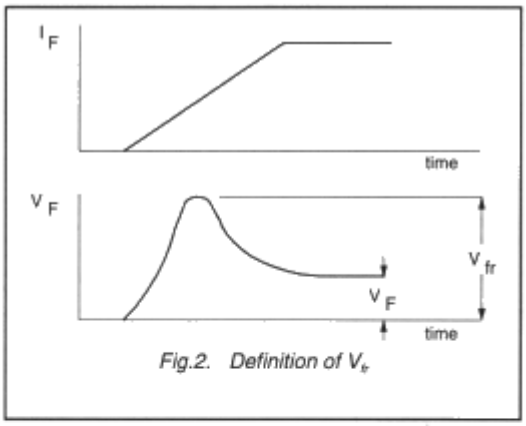

Fig.2. Definition of V_{fr}

Damper diode
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BY359F-1500, BY359F-1500S

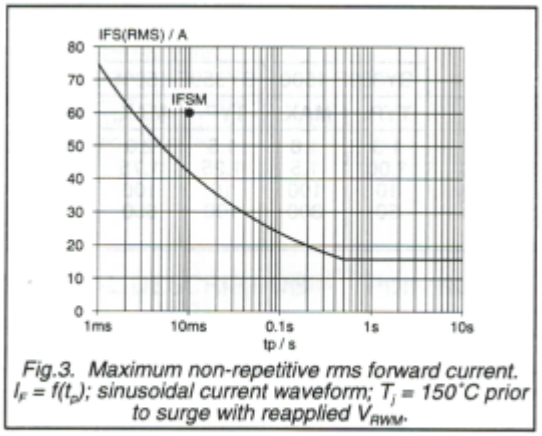

Fig.3. Maximum non-repetitive rms forward current. $I_F = f(t_p)$; sinusoidal current waveform; T_j = 150˚C prior to surge with reapplied V_{RWM}.

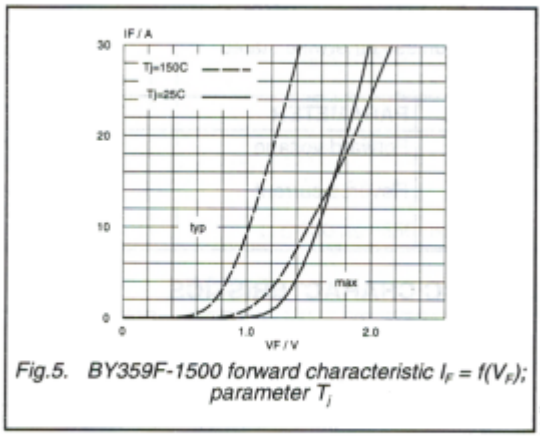

Fig.5. BY359F-1500 forward characteristic $I_F = f(V_F)$; parameter T_j

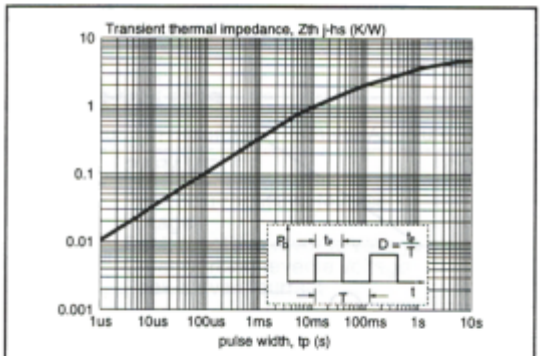

Fig.4. Transient thermal impedance $Z_{th} = f(t_p)$

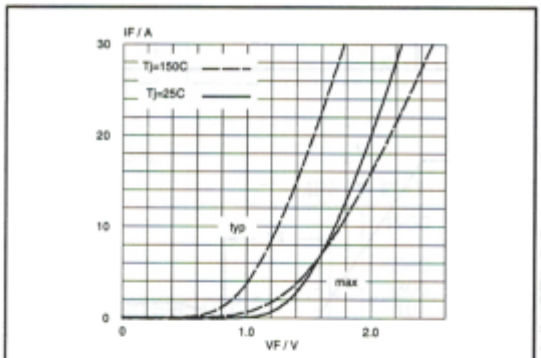

Fig.6. BY359F-1500S forward characteristic $I_F = f(V_F)$; parameter T_j