

Silicon Diode

BYT106/1300

1300V / 15A

DATASHEET

OEM – Temic

Source: Temic Datasheet Paperware

Fast Recovery Silicon Power Diode

BYT 106/1300

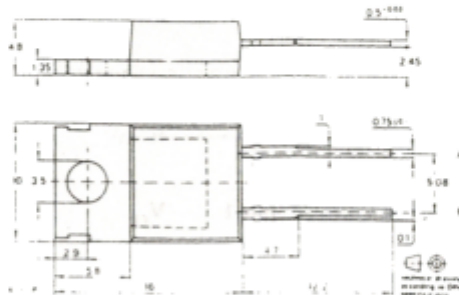
Application:

- Fast switched mode power supplies
- Freewheeling diodes and snubber diodes in motor control circuits

Features:

- Multiple diffusion
- Mesa glasspassivated
- Low switch on power losses
- Good soft recovery behavior
- Fast forward recovery time
- Fast reverse recovery time
- Low reverse current
- Very good reverse current stability at high temperature
- Low thermal resistance

Dimensions in mm:



Cathode connected
with metallic surface

plastic case
DO 220

Absolute maximum ratings

Reverse voltage,			
Repetitive peak reverse voltage	$V_R = V_{RRM}$	1300	V
Surge forward current			
$t_p = 10$ ms	I_{FSM}	50	A
Repetitive peak forward current	I_{FRM}	15	A
Average forward current	I_{FAV}	5	A
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-40... + 150	°C

Maximum thermal resistances

Junction case	R_{thJC}	2.4	K/W
Junction ambient	R_{thJA}	85	K/W

Characteristics

		Typ.	Max.
$T_j = 25^\circ\text{C}$, unless otherwise specified			
Forward voltage			
$I_F = 5\text{ A}$	V_F		1.8 V
$I_F = 5\text{ A}, T_j = 100^\circ\text{C}$	V_F		1.8 V
Reverse current			
$V_R = V_{RRM}$	I_R		10 μA
$V_R = V_{RRM}, T_j = 100^\circ\text{C}$	I_R		0.2 mA
Forward recovery time			
$I_F = 5\text{ A}, di_F/dt \leq 50\text{ A}/\mu\text{s}$	t_{fr}	350	ns
Turn ON transient peak voltage, Fig.1	V_{FP}	7	V
Turn OFF switching characteristic Fig.2			
Reverse recovery time			
$I_F = 0.5\text{ A}, I_R = 1\text{ A}, i_R = 0.25\text{ A}$	t_{rr}		120 ns

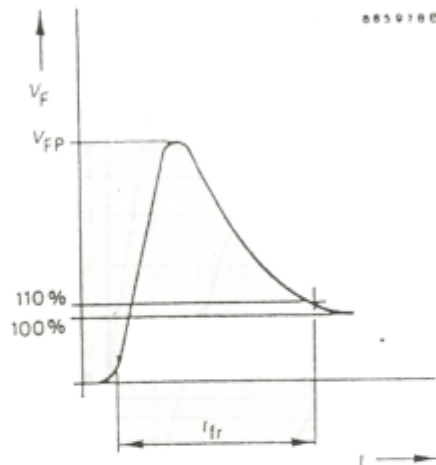


Fig. 1 Turn ON transient peak voltage

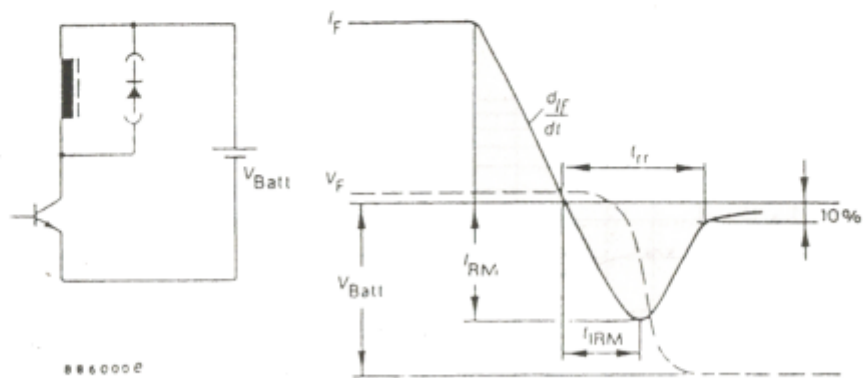
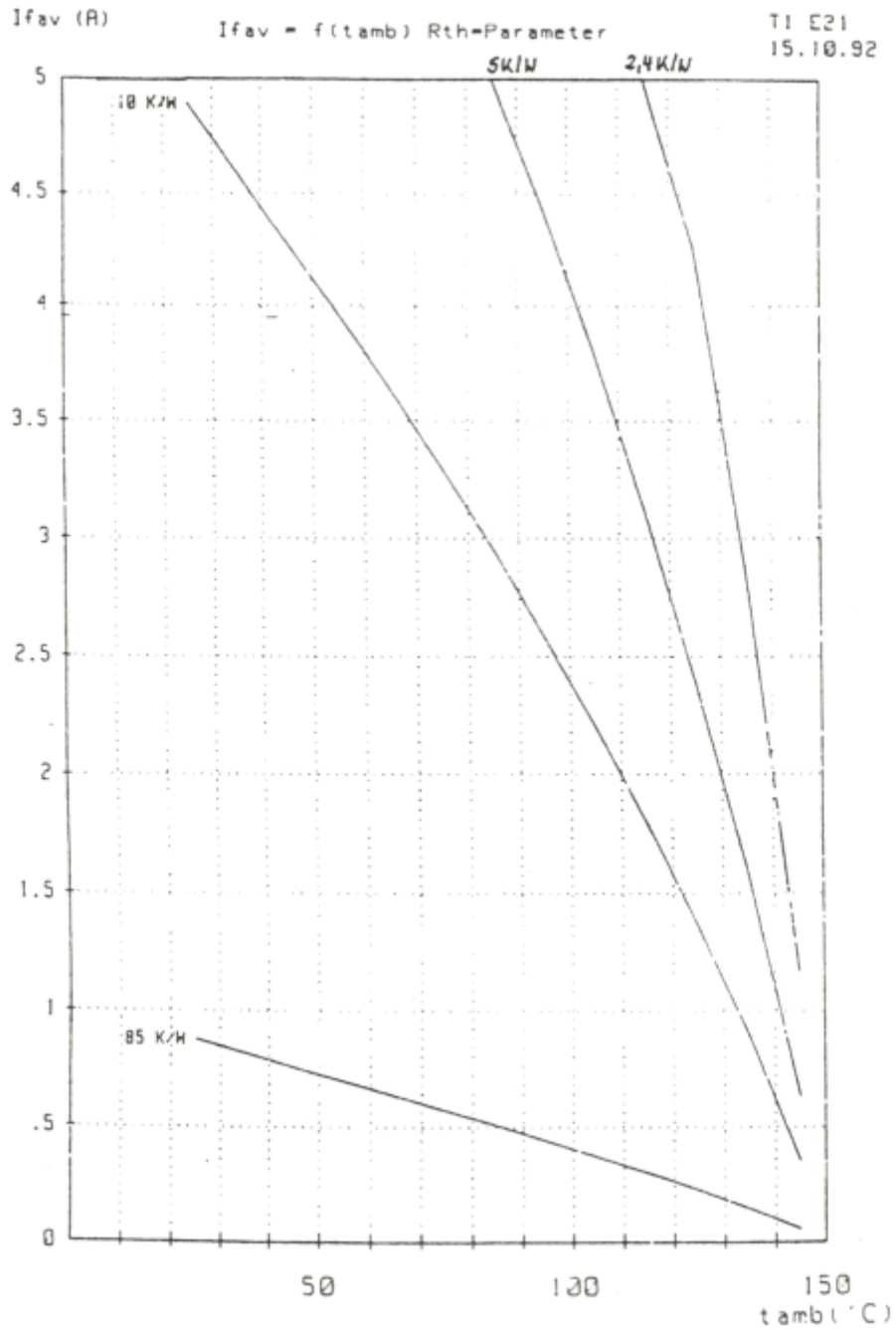
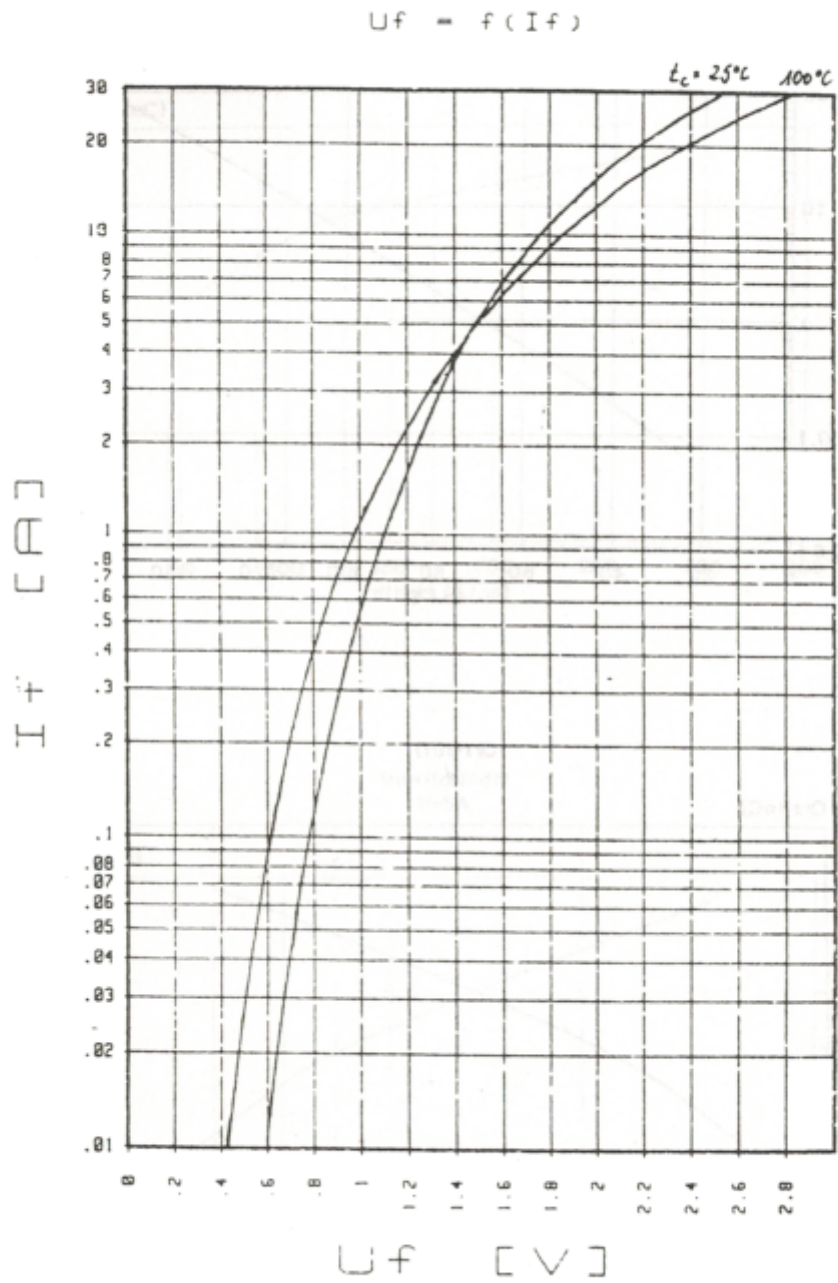
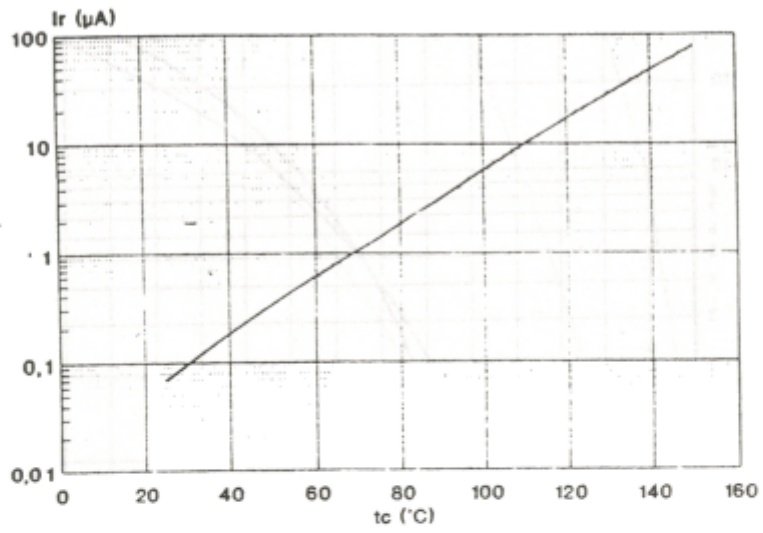


Fig. 2 Test circuit





$I_r=f(t_c)$



$Q_{rr}=f(I_f)$

