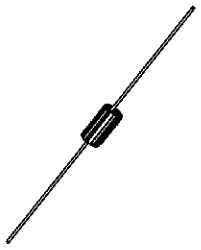
SGS-THOMSON MICROELECTRONICS

BYT 13-600 →1000

FAST RECOVERY RECTIFIER DIODES

- SOFT RECOVERY
- VERY HIGH VOLTAGE
- SMALL RECOVERY CHARGE



DO 27 A
(Plastic)

APPLICATIONS

- ANTISATURATION DIODES FOR TRANSISTOR BASE DRIVE
- SNUBBER DIODES

ABSOLUTE MAXIMUM RATINGS (limiting values)

Symbol	Parameter		Value	Unit
I_{FRM}	Repetive Peak Forward Current	$t_p \leq 20\mu s$	50	A
$I_{F(AV)}$	Average Forward Current *	$T_a = 55°C$ $\delta = 0.5$	3	A
I_{FSM}	Surge non Repetitive Forward Current	t_p = 10ms Sinusoidal	100	A
P_{tot}	Power Dissipation *	$T_a = 55°C$	3.75	W
T_{stg} T_j	Storage and Junction Temperature Range		- 40 to + 150 - 40 to + 150	°C
T_L	Maximum Lead Temperature for Soldering during 10s at 4mm from Case		230	°C

Symbol	Parameter	BYT 13-			Unit
		600	800	1000	
V_{RRM}	Repetitive Peak Reverse Voltage	600	800	1000	V

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	25	°C/W

* On infinite heatsink with 10mm lead length.

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_R	T_j = 25°C	$V_R = V_{RRM}$			20	µA
V_F	T_j = 25°C	I_F = 3A			1.3	V

RECOVERY CHARACTERISTICS

Symbol	Test Conditions				Min.	Typ.	Max.	Unit
t_{rr}	T_j = 25°C	I_F = 0.5A	I_R = 1A	I_{rr} = 0.25A			150	ns

To evaluate the conduction losses use the following equations:

$V_F = 0.95 + 0.050\ I_F$ $\quad P = 0.95 \times I_{F(AV)} + 0.050\ I_F{}^2{}_{(RMS)}$

Figure 1. Maximum average power dissipation versus average forward current.

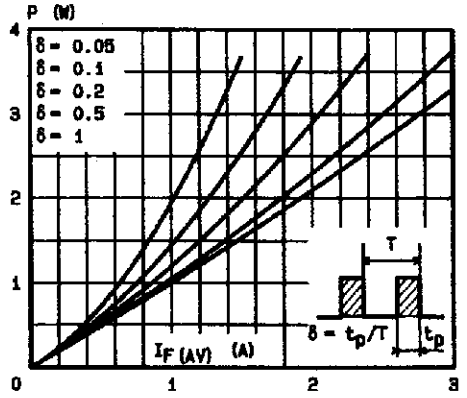


Figure 2. Average forward current versus ambient temperature.

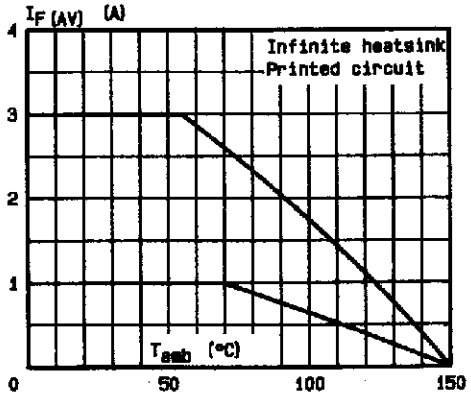
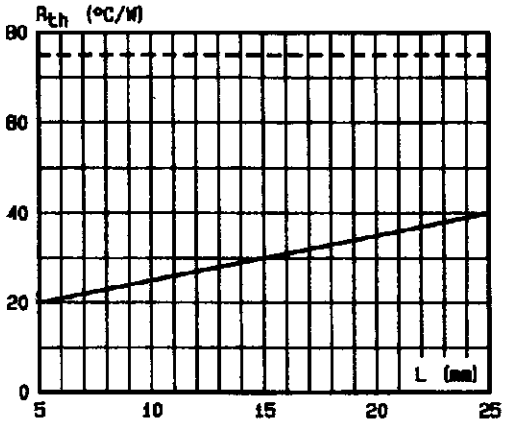
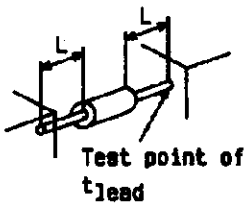


Figure 3. Thermal resistance versus lead length.



Mounting n°1
INFINITE HEATSINK



Mounting n°2
PRINTED CIRCUIT

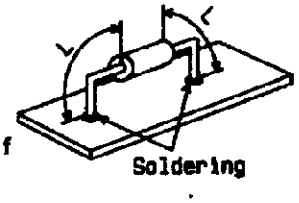


Figure 4. Transient thermal impedance junction-ambient for mounting n°2 versus pulse duration (L = 10 mm).

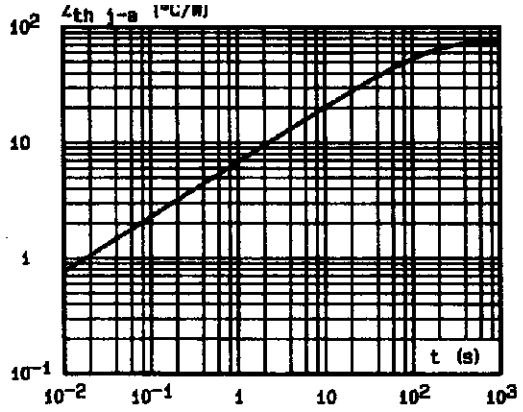


Figure 5. Peak forward current versus peak forward voltage drop (maximum values).

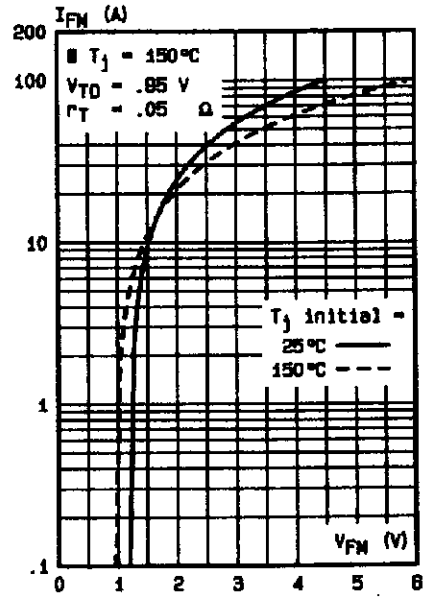


Figure 6. Capacitance versus reverse applied voltage

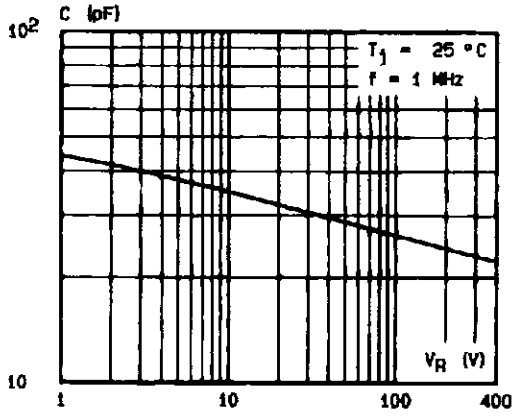
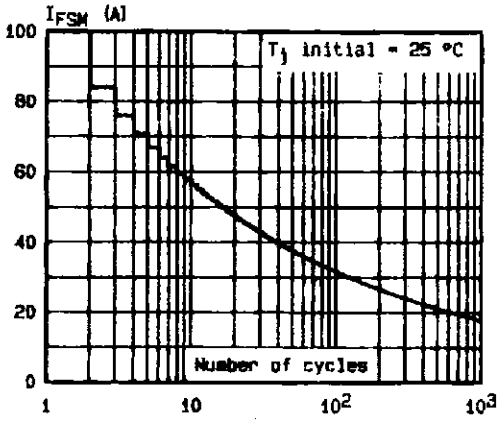
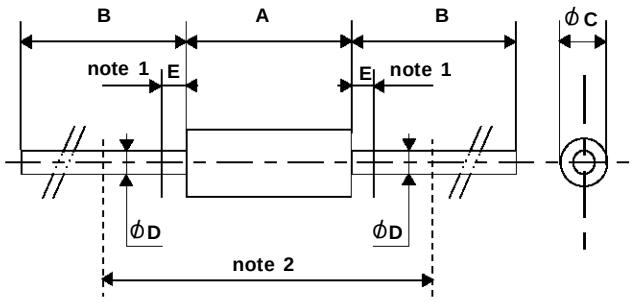


Figure 7. Non repetitive surge peak current versus number of cycles



PACKAGE MECHANICAL DATA

DO 27 A (Plastic)



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A		9.80		0.385	1 - The lead diameter ∅ D is not controlled over zone E 2 - The minimum axial lengh within which the device may be placed with its leads bent at right angles is 0.59”(15 mm)
B	26		1.024		
∅ C		5.10		0.200	
∅ D		1.28		0.050	
E		1.25		0.049	

Cooling method: by convection (method A)
Marking: type number, white band indicate cathode
Weight: 1g