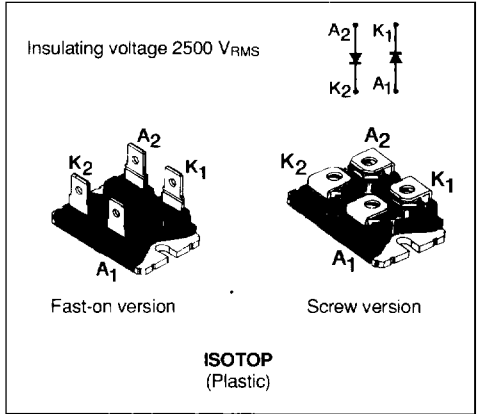




**FAST RECOVERY RECTIFIER DIODES**

- VERY LOW REVERSE RECOVERY TIME
- VERY LOW SWITCHING LOSSES
- LOW NOISE TURN-OFF SWITCHING
- INSULATED : Capacitance 45pF



**DESCRIPTION**

Double rectifiers suited for switching mode power supply.

**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter	Value	Unit
$I_{FRM}$	Repetitive Peak Forward Current	$t_p \leq 10\mu s$	A
$I_{F(RMS)}$	RMS Forward Current	per leg	A
$I_{F(AV)}$	Average Forward Current	$T_{case} = 60^\circ C$ $\delta = 0.5$ per leg	A
$I_{FSM}$	Surge non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	A
P	Power Dissipation	$T_{case} = 60^\circ C$ per leg	W
$T_{stg}$ $T_j$	Storage and Junction Temperature Range	- 40 to + 150	$^\circ C$

Symbol	Parameter	BYT 230PI(V)-			Unit
		200	300	400	
$V_{RRM}$	Repetitive Peak Reverse Voltage	200	300	400	V
$V_{RSM}$	Non Repetitive Peak Reverse Voltage	250	350	450	V

**THERMAL RESISTANCES**

Symbol	Test Conditions	Value	Unit
$R_{th(j-c)}$	Junction-case	per leg	1.5
		total	0.8
$R_{th(c)}$	Coupling	0.1	$^\circ C/W$

**ELECTRICAL CHARACTERISTICS**

**STATIC CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$I_R$	$T_J = 25^\circ\text{C}$	$V_R = V_{RRM}$			35	$\mu\text{A}$
	$T_J = 100^\circ\text{C}$				6	$\text{mA}$
$V_F$	$T_J = 25^\circ\text{C}$	$I_F = 30\text{A}$			1.5	V
	$T_J = 100^\circ\text{C}$				1.4	

**RECOVERY CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$t_{rr}$	$T_J = 25^\circ\text{C}$	$I_F = 1\text{A}$ $di_F/dt = -15\text{A}/\mu\text{s}$ $V_R = 30\text{V}$			100	ns
		$I_F = 0.5\text{A}$ $I_R = 1\text{A}$ $I_{rr} = 0.25\text{A}$			50	

**TURN -OFF SWITCHING CHARACTERISTICS (Without Series Inductance)**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$t_{IRM}$	$di_F/dt = -120\text{A}/\mu\text{s}$	$V_{CC} = 200\text{V}$ $I_F = 30\text{A}$ $L_p \leq 0.05\mu\text{H}$ $T_J = 100^\circ\text{C}$ See Figure 11			75	ns
	$di_F/dt = -240\text{A}/\mu\text{s}$			50		
$I_{RM}$	$dI_F/dt = -120\text{A}/\mu\text{s}$				9	A
	$dI_F/dt = -240\text{A}/\mu\text{s}$			12		

**TURN -OFF OVERVOLTAGE COEFFICIENT (With Series Inductance)**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$C = \frac{V_{RP}}{V_{CC}}$	$T_J = 100^\circ\text{C}$ $di_F/dt = -30\text{A}/\mu\text{s}$	$V_{CC} = 60\text{V}$ $I_F = I_{F(AV)}$ See note $L_p = 1\mu\text{H}$ See Figure 12		3.3		

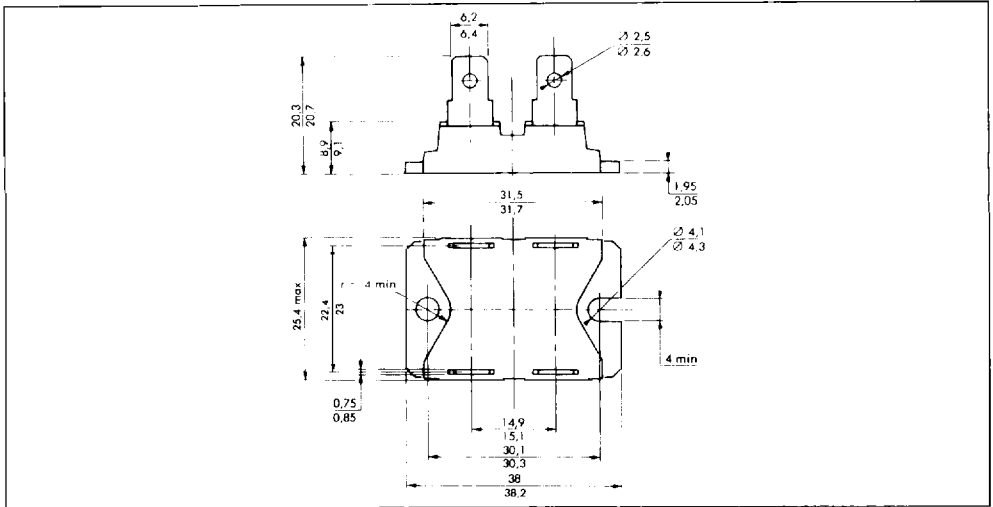
**Note :** Applicable to BYT 230PI(V)-400 only

To evaluate the conduction losses use the following equations :

$$V_F = 1.1 + 0.0095 I_F \qquad P = 1.1 \times I_{F(AV)} + 0.0095 I_F^2 (R_{MS})$$

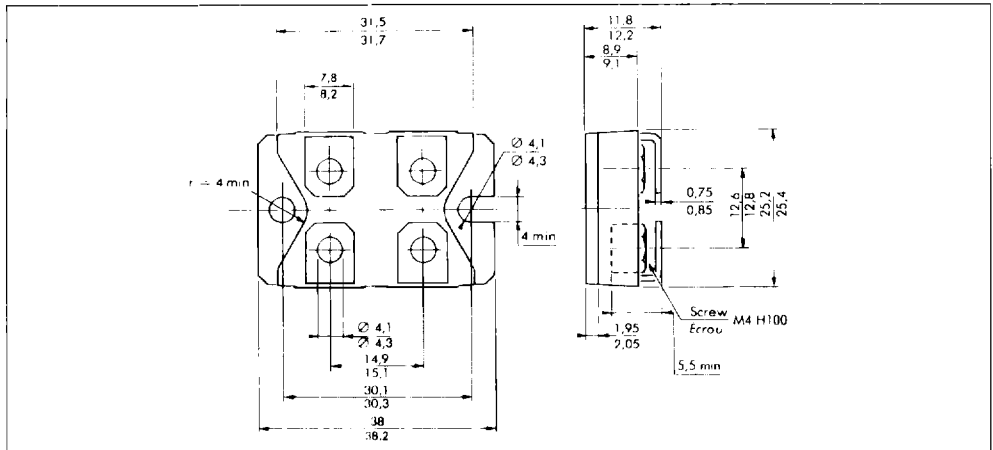
**PACKAGE MECHANICAL DATA**

ISOTOP Plastic : FAST-ON VERSION



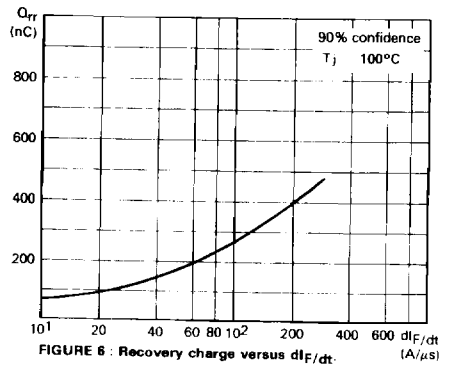
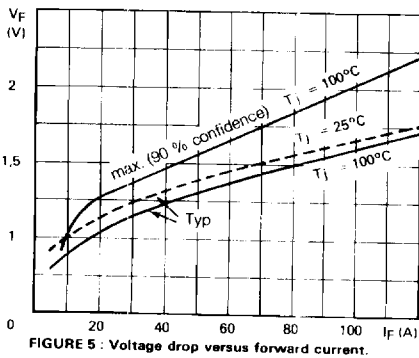
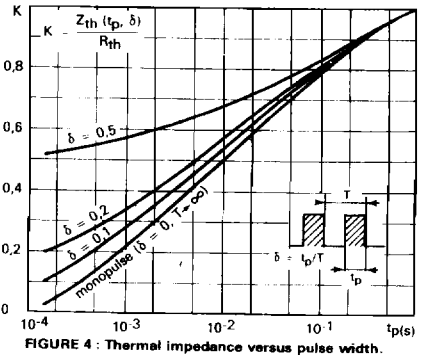
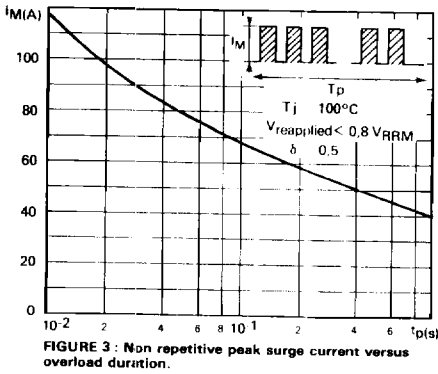
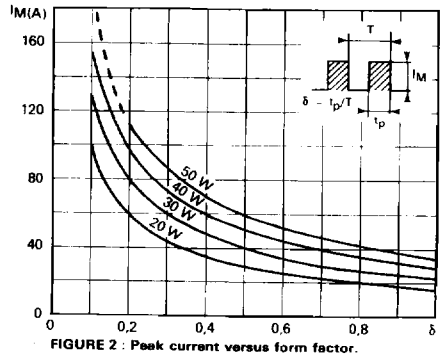
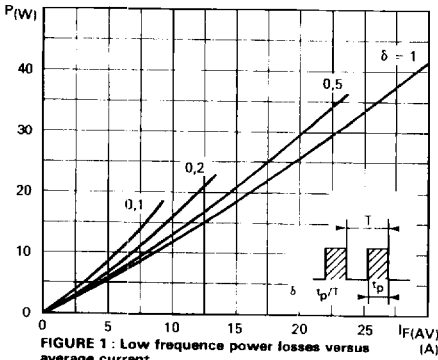
Marking : type number

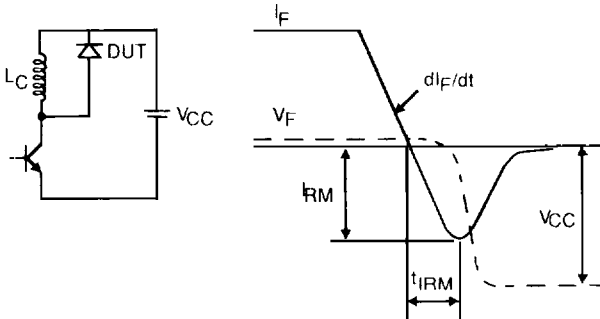
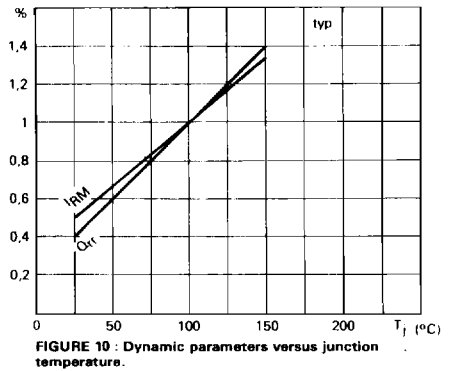
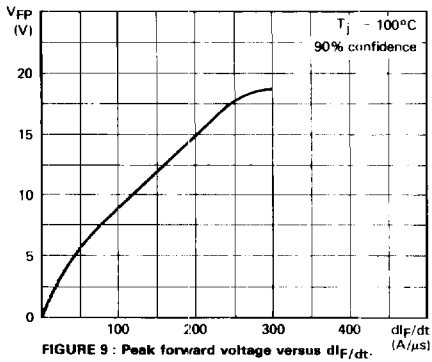
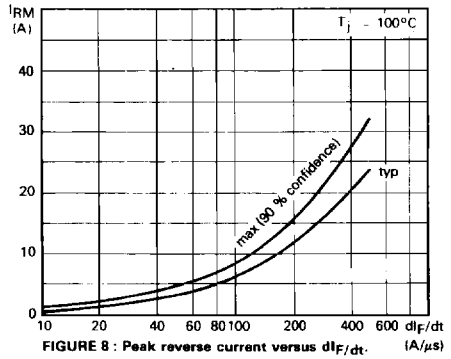
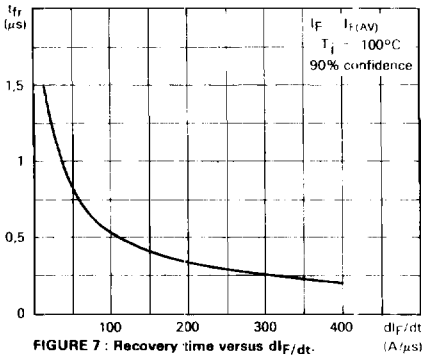
ISOTOP Plastic : SCREW VERSION



Marking : type number + suffix V

Recommended screw torque value : 13 ± 2kg.cm  
 Maximum screw torque value : 15kg.cm





**Figure 11 : Turn-off switching characteristics (without series inductance).**

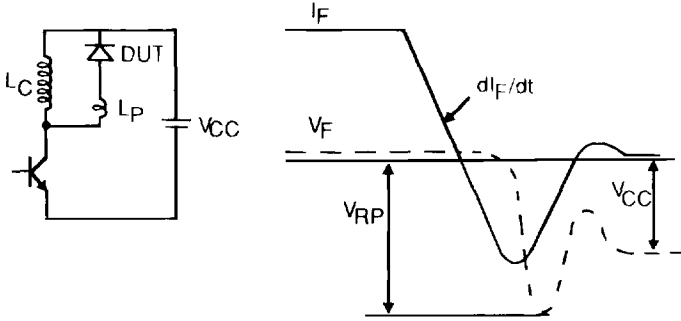


Figure 12 : Turn-off switching characteristics (with series inductance).