

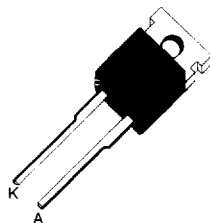
## FAST RECOVERY RECTIFIER DIODES

- HIGH REVERSE VOLTAGE CAPABILITY
- VERY LOW REVERSE RECOVERY TIME
- VERY LOW SWITCHING LOSSES
- LOW NOISE TURN-OFF SWITCHING

### SUITABLE APPLICATIONS

- FREE WHEELING DIODE IN CONVERTERS AND MOTOR CONTROL CIRCUITS
- RECTIFIER IN S.M.P.S.

Cathode connected to case



**DO 220 AB**  
(Plastic)

### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{FRM}$	Repetitive Peak Forward Current	$t_p < 10\mu s$	100	A
$I_{F(RMS)}$	RMS Forward Current		16	A
$I_{F(AV)}$	Average Forward Current	$T_{case} = 115^\circ C$ $\delta = 0.5$	8	A
$I_{FSM}$	Surge non Repetitive Forward Current	$t_p = 10ms$ sinusoidal	50	A
P	Power Dissipation	$T_{case} = 115^\circ C$	17	W
$T_{stg}$ $T_j$	Storage and Junction Temperature Range		- 40 to + 150	$^\circ C$

Symbol	Parameter	BYT 08P-		Unit
		600A	800A	
$V_{RRM}$	Repetitive Peak Reverse Voltage	600	800	V
$V_{RSM}$	Non Repetitive Peak Reverse Voltage	640	850	V

### THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-c)}$	Junction-case	2	$^\circ C/W$

**ELECTRICAL CHARACTERISTICS**

**STATIC CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I <sub>R</sub>	T <sub>j</sub> = 25°C	V <sub>R</sub> = V <sub>RRM</sub>			35	μA
	T <sub>j</sub> = 100°C				2	mA
V <sub>F</sub>	T <sub>j</sub> = 25°C	I <sub>F</sub> = 8A			1.9	V
	T <sub>j</sub> = 100°C				1.8	

**RECOVERY CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t <sub>rr</sub>	T <sub>j</sub> = 25°C	I <sub>F</sub> = 1A di <sub>F</sub> /dt = - 15A/μs V <sub>R</sub> = 30V			120	ns
		I <sub>F</sub> = 0.5A I <sub>R</sub> =1A I <sub>rr</sub> = 0.25A			50	

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

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t <sub>RM</sub>	di <sub>F</sub> /dt = - 32A/μs	V <sub>CC</sub> = 200V I <sub>F</sub> = 8A L <sub>p</sub> ≤ 0.05μH T <sub>j</sub> = 100°C See Figure 1			160	ns
	di <sub>F</sub> /dt = - 64A/μs			100		
I <sub>RM</sub>	di <sub>F</sub> /dt = - 32A/μs				4	A
	di <sub>F</sub> /dt = - 64A/μs			5		

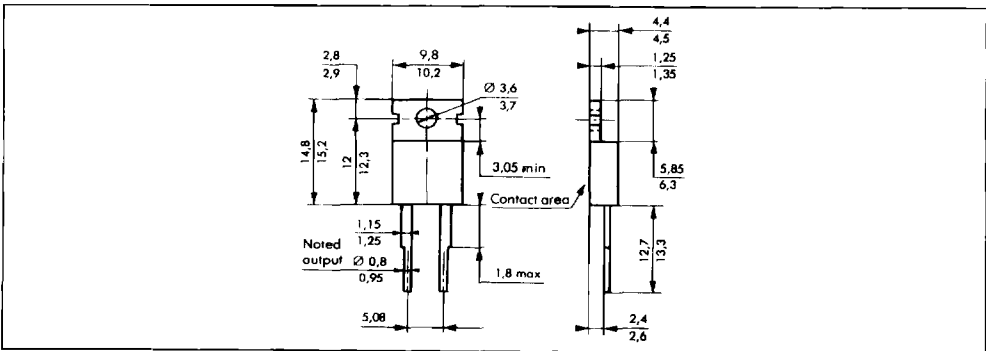
**TURN -OFF OVERVOLTAGE COEFFICIENT - With Series Inductance**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
C = $\frac{V_{RP}}{V_{CC}}$	T <sub>j</sub> = 100°C di <sub>F</sub> /dt = - 8A/μs	V <sub>CC</sub> = 150V I <sub>F</sub> = I <sub>F(AV)</sub> L <sub>p</sub> = 12μH See figure 2			4	

To evaluate the conduction losses use the following equations :

$$V_F = 1.47 + 0.04 I_F \quad P = 1.47 \times I_{F(AV)} + 0.04 I_F^2 (RMS)$$

**PACKAGE MECHANICAL DATA : DO 220 AB Plastic**



Cooling method : by conduction (method C)

Marking : type number

Weight : 2.42g

Recommended torque value : 80cm.N

Maximum torque value : 100cm.N

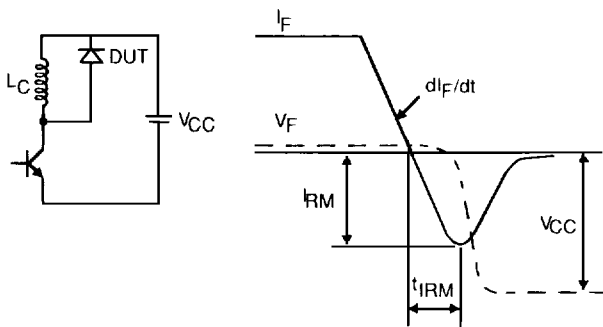


Figure 1 : Turn-off switching characteristics (without series inductance).

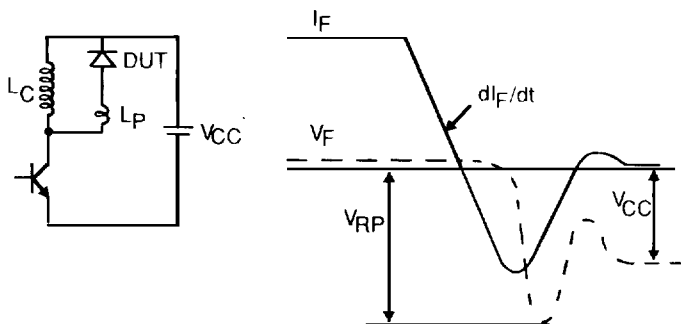


Figure 2 : Turn-off switching characteristics (with series inductance).