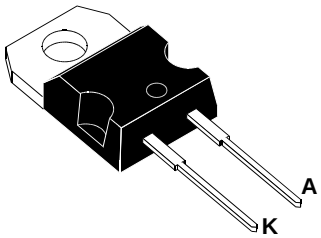
BYT 08P-1000

FAST RECOVERY RECTIFIER DIODE

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

Cathode connected to case



TO220AC
(Plastic)

SUITABLE APPLICATIONS

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

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		1000	V
V_{RSM}	Non Repetitive Peak Reverse Voltage		1000	V
I_{FRM}	Repetitive Peak Forward Current	$t_p \leq 10\mu s$	100	A
$I_{F\ (RMS)}$	RMS Forward Current		16	A
$I_{F\ (AV)}$	Average Forward Current	$T_c = 115°C$ $\delta = 0.5$	8	A
I_{FSM}	Surge Non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	50	A
P	Power Dissipation	$T_c = 115°C$	17	W
T_{stg} T_j	Storage and Junction Temperature Range		- 40 to + 150 - 40 to + 150	°C

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th\ (j\ -\ c)}$	Junction-case	2	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_R	T_j = 25°C	$V_R = V_{RRM}$			35	µA
	T_j = 100°C				2	mA
V_F	T_j = 25°C	I_F = 8A			1.9	V
	T_j = 100°C				1.8	

RECOVERY CHARACTERISTICS

Symbol	Test Conditions				Min.	Typ.	Max.	Unit
t_{rr}	T_j = 25°C	I_F = 1A	dI_F/dt = - 15A/µs	V_R = 30V			155	ns
		I_F = 0.5A	I_R = 1A	I_{rr} = 0.25A			65	

TURN-OFF SWITCHING CHARACTERISTICS (Without Series Inductance)

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t_{IRM}	dI_F/dt = - 32A/µs	V_{CC} = 200 V I_F = 8A $L_p \leq 0.05\mu H$ T_j = 100°C See Figure 1			200	ns
	dI_F/dt = - 64A/µs			120		
I_{RM}	dI_F/dt = - 32A/µs				5.5	A
	dI_F/dt = - 64A/µs			6		

TURN-OFF OVERVOLTAGE COEFFICIENT (With Series Inductance)

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
$C = \frac{V_{RP}}{V_{CC}}$	T_j = 100°C V_{CC} = 200V $I_F = I_{F(AV)}$ dI_F/dt = - 8A/µs L_p = 12µH See figure 2			4.5	

To evaluate the conduction losses use the following equations:

$V_F = 1.47 + 0.041\ I_F$ $\quad P = 1.47 \times I_{F(AV)} + 0.041\ I_F{}^2{}_{(RMS)}$

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

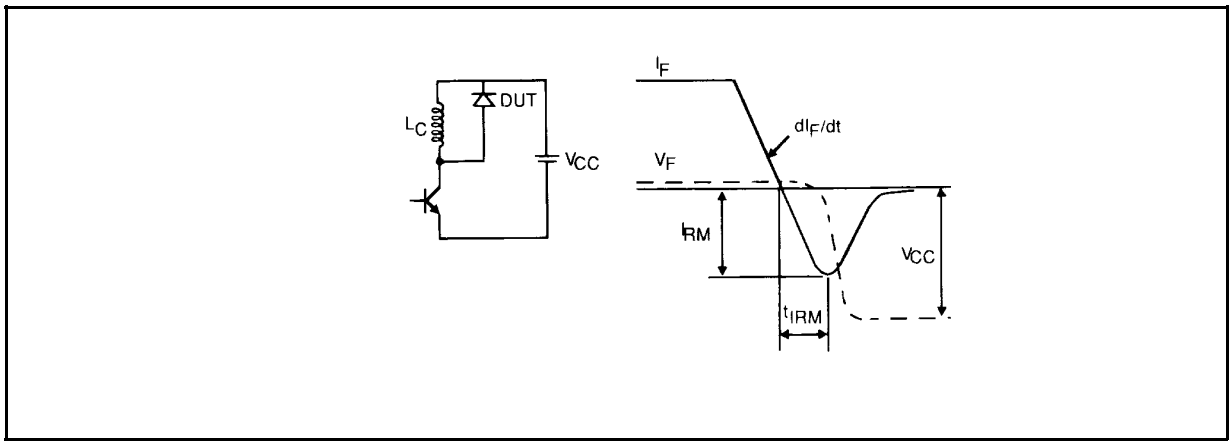
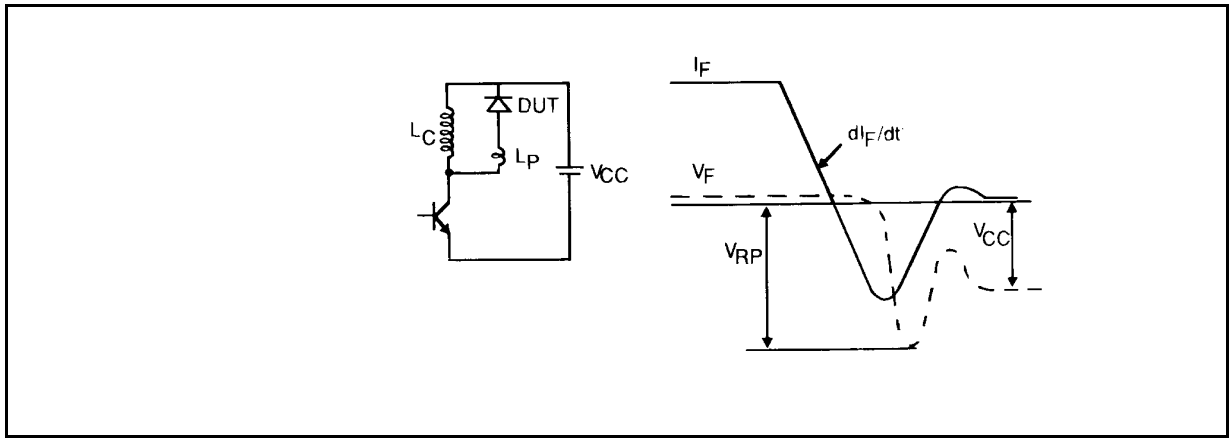
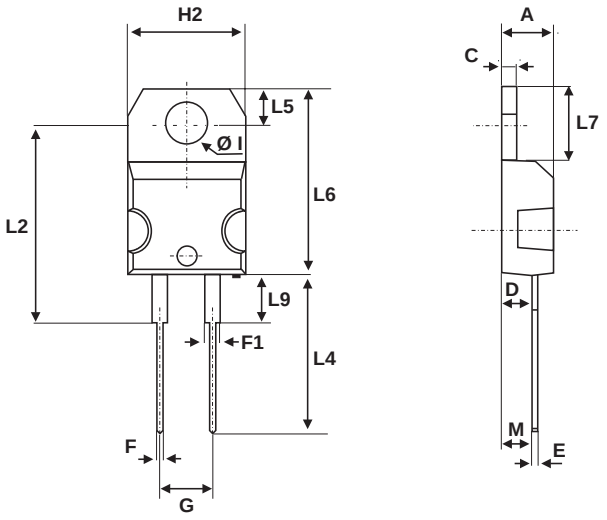


Figure 2. Turn-off switching characteristics (with series inductance).



PACKAGE MECHANICAL DATA : TO220AC Plastic



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	0.181
C	1.23	1.32	0.048	0.051
D	2.40	2.72	0.094	0.107
E	0.49	0.70	0.019	0.027
F	0.61	0.88	0.024	0.034
F1	1.14	1.70	0.044	0.066
G	4.95	5.15	0.194	0.202
H2	10.00	10.40	0.393	0.409
L2	16.40 typ.		0.645 typ.	
L4	13.00	14.00	0.511	0.551
L5	2.65	2.95	0.104	0.116
L6	15.25	15.75	0.600	0.620
L7	6.20	6.60	0.244	0.259
L9	3.50	3.93	0.137	0.154
M	2.6 typ.		0.102 typ.	
Diam. I	3.75	3.85	0.147	0.151

Cooling method: by conduction (method C)
Marking: type number
Weight: 2.42g
Recommended torque value: 80cm. N
Maximum torque value: 100cm. N