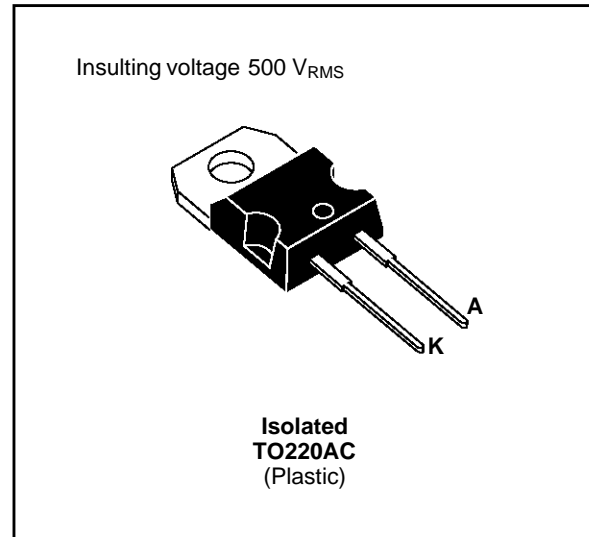


FAST RECOVERY RECTIFIER DIODE

- VERY HIGH REVERSE VOLTAGE CAPABILITY
- VERY LOW REVERSE RECOVERY TIME
- VERY LOW SWITCHING LOSSES
- LOW NOISE TURN-OFF SWITCHING
- INSULATED: Capacitance 7pF



SUITABLE APPLICATIONS

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

ABSOLUTE MAXIMUM 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	$T_c = 80^\circ C$ $\delta = 0.5$	8	A
I_{FSM}	Surge Non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	50	A
P	Power Dissipation	$T_c = 80^\circ C$	17	W
T_{stg} T_j	Storage and Junction Temperature Range		- 40 to + 150 - 40 to + 150	$^\circ C$

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction-case	4	$^\circ C/W$

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 ≤ 0.05μH 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)}			4.5	
	di _F /dt = - 8A/μs	L _p = 2μH	See figure 2				

To evaluate the conduction losses use the following equation:

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

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

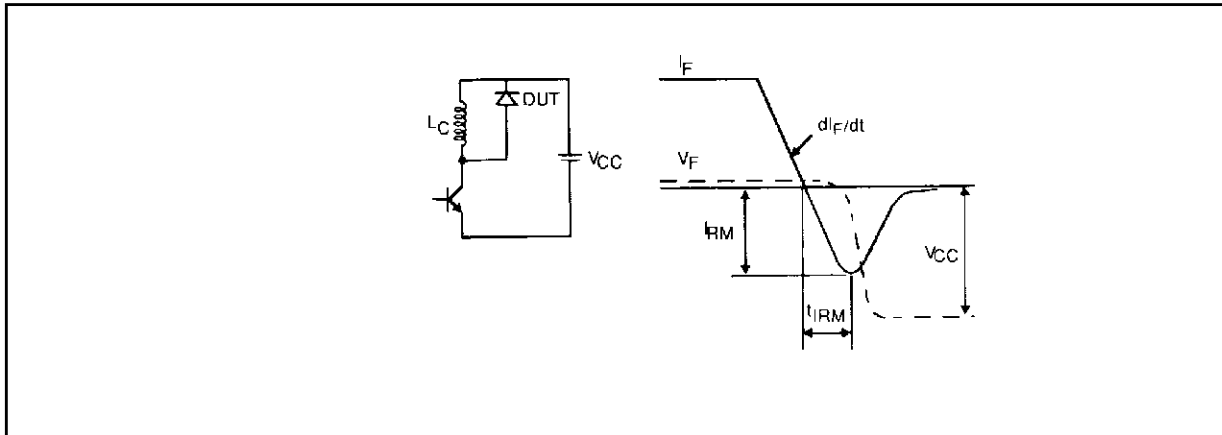
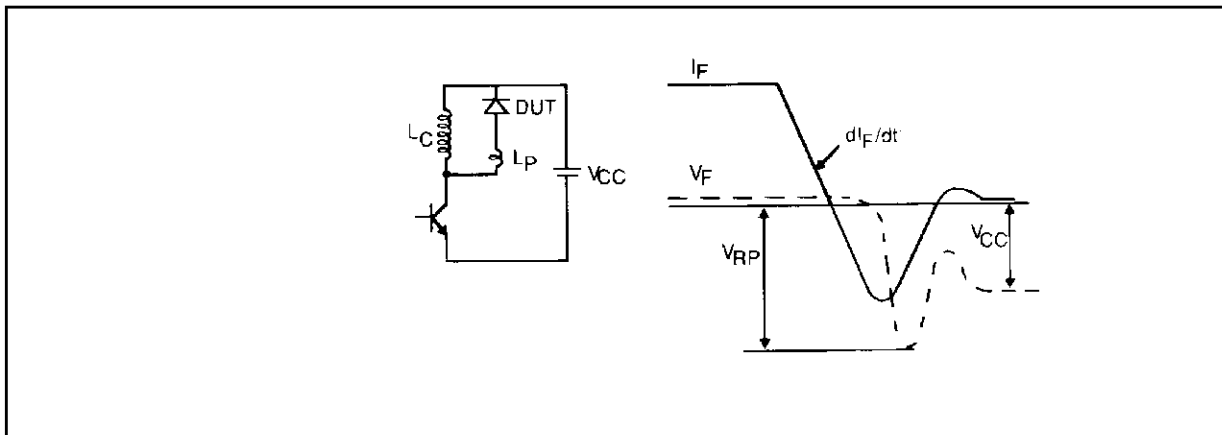
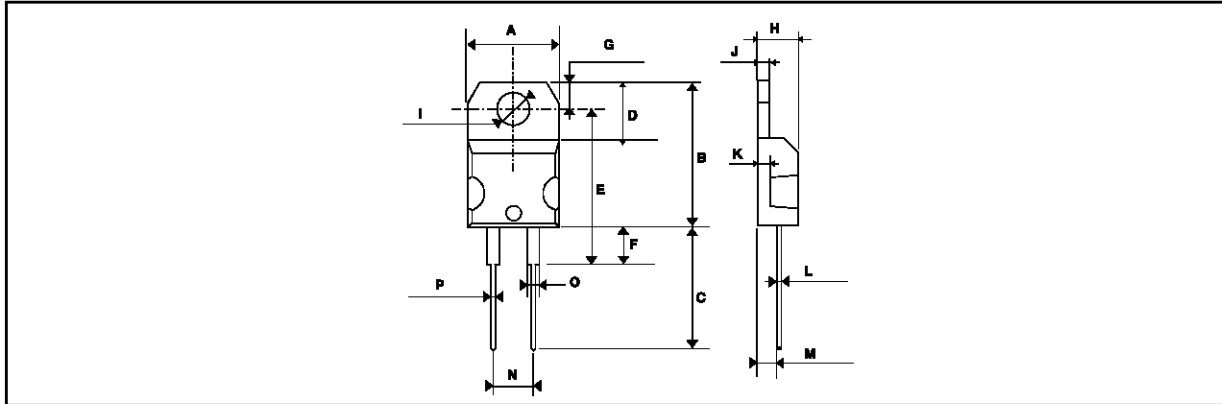


Figure 2. Turn-off switching characteristics (with series inductance).



PACKAGE MECHANICAL DATA : TO220AC Plastic



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	10.0	10.4	0.393	0.409
B	15.2	15.9	0.598	0.626
C	13	14	0.511	0.551
D	6.2	6.6	0.244	0.260
E	16.4 typ.		0.645 typ.	
F	3.5	4.2	0.137	0.165
G	2.65	2.95	0.104	0.116
H	4.4	4.6	0.173	0.181
I	3.75	3.85	0.147	0.151
J	1.23	1.32	0.048	0.051
K	1.27 typ.		0.050 typ.	
L	0.49	0.70	0.019	0.027
M	2.4	2.72	0.094	0.107
N	4.95	5.15	0.194	0.203
O	1.14	1.70	0.044	0.067
P	0.61	0.88	0.024	0.034

Cooling method: by conduction (method C)
 Marking: type number
 Weight: 2.1g
 Recommended torque value: 80cm. N
 Maximum torque value: 100cm. N

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