

ELECTRICAL CHARACTERISTICS
STATIC CHARACTERISTICS

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

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t_{rr}	$T_j = 25^\circ\text{C}$	$I_F = 1\text{A}$	$di_F/dt = -15\text{A}/\mu\text{s}$			155	ns
		$I_F = 0.5\text{A}$	$I_R = 1\text{A}$			65	

TURN-OFF SWITCHING CHARACTERISTICS (Without Series Inductance)

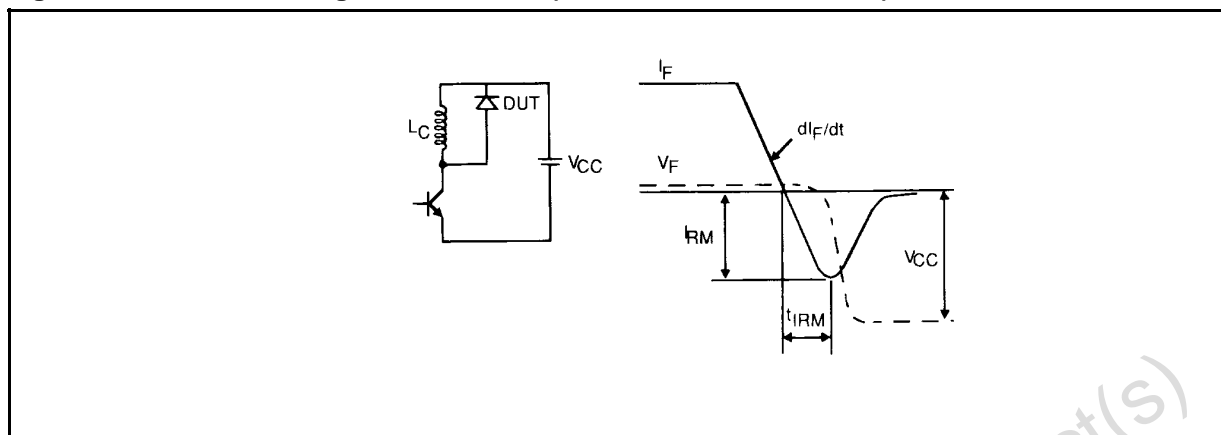
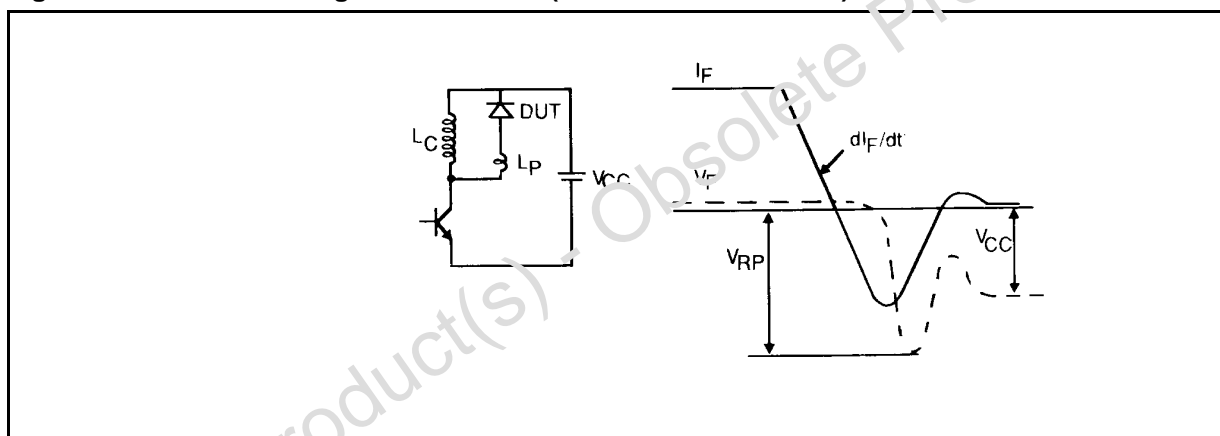
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t_{IRM}	$di_F/dt = -32\text{A}/\mu\text{s}$	$V_{CC} = 200\text{V}$ $I_F = 8\text{A}$			200	ns
	$di_F/dt = -64\text{A}/\mu\text{s}$	$L_p \leq 0.05\mu\text{H}$ $T_j = 100^\circ\text{C}$ See Figure 1		120		
I_{RM}	$di_F/dt = -32\text{A}/\mu\text{s}$				5.5	A
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

TURN-OFF OVERVOLTAGE COEFFICIENT (With Series Inductance)

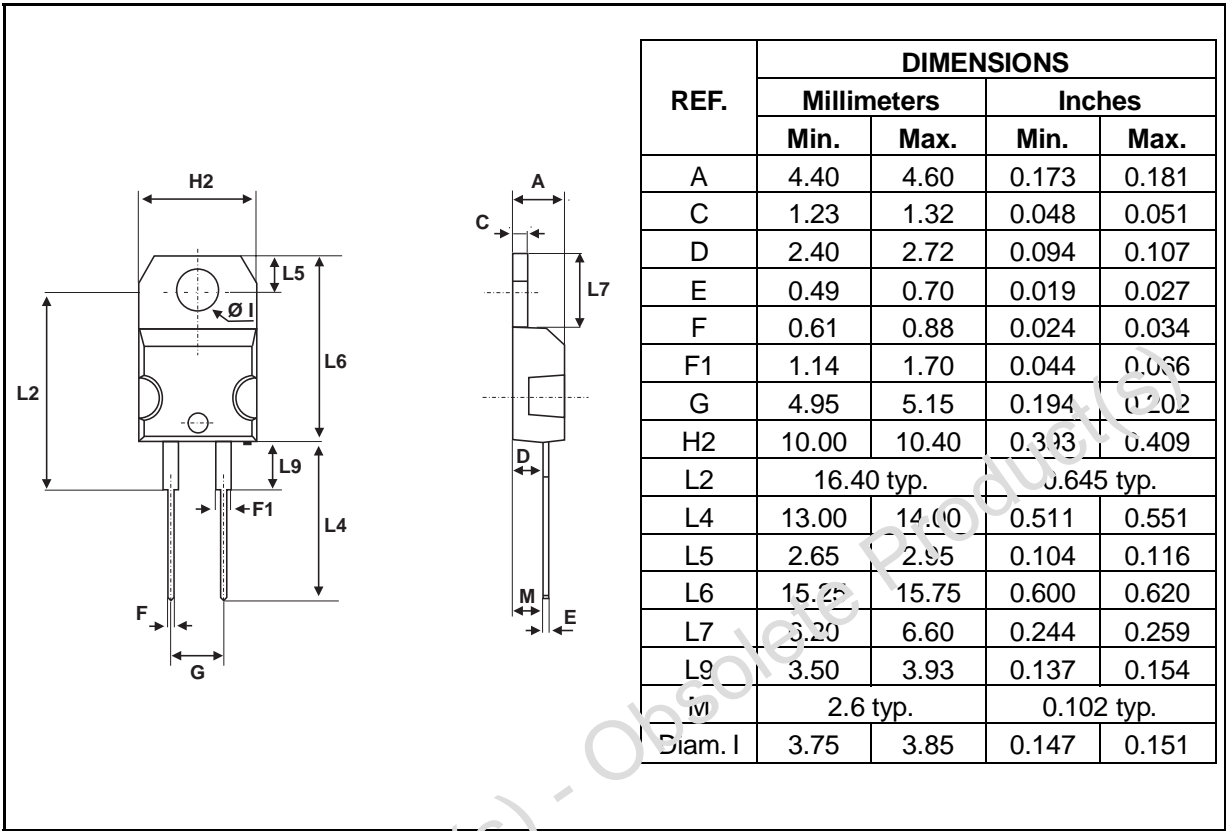
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$C = \frac{V_{RP}}{V_{CC}}$	$T_j = 100^\circ\text{C}$	$V_{CC} = 200\text{V}$ $I_F = I_{F(AV)}$			4.5	
	$di_F/dt = -8\text{A}/\mu\text{s}$	$L_p = 12\mu\text{H}$ See figure 2				

To evaluate the conduction losses use the following equations:

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

Figure 1. Turn-off switching characteristics (without series inductance).**Figure 2. Turn-off switching characteristics (with series inductance).**

PACKAGE MECHANICAL DATA : TO220AC Plastic



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

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