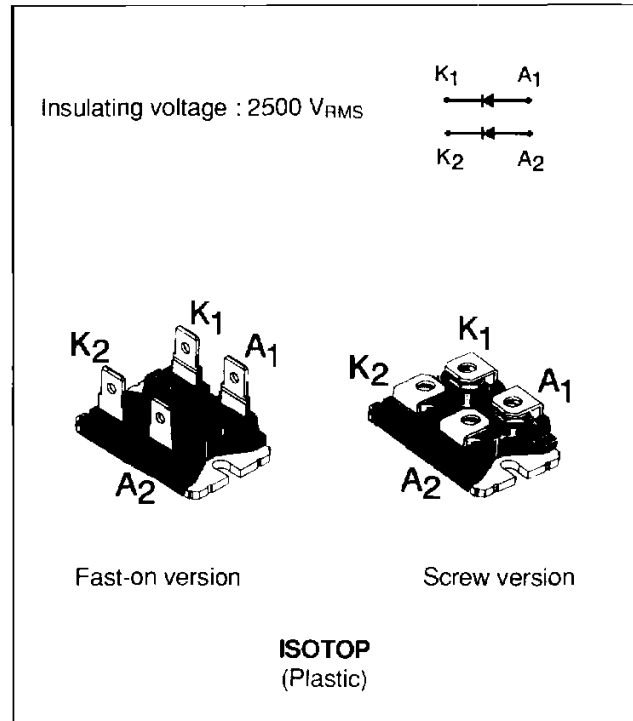


FAST RECOVERY RECTIFIER DIODE

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


DESCRIPTION

Double rectifiers suited for switching mode power supply.

ABSOLUTE RATINGS

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 ≤ 10μs	750	A
I _{F(RMS)}	RMS Forward Current	per leg	140	A
I _{F(AV)}	Average Forward Current	T _{case} = 60°C δ = 0.5 per leg	60	A
I _{FSM}	Surge Non Repetitive Forward Current	t _p = 10ms Sinusoidal	400	A
P	Power Dissipation	T _{case} = 60°C per leg	130	W
T _{stg} T _j	Storage and Junction Temperature Range		- 40 to + 150	°C

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R _{th(j-c)}	Junction-case	per leg total	0.7 0.4	°C/W
R _{th(c)}	Coupling		0.1	°C/W

ELECTRICAL CHARACTERISTICS
STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_R	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$			100	μA
	$T_j = 100^\circ\text{C}$				6	mA
V_F	$T_j = 25^\circ\text{C}$	$I_F = 60\text{A}$			1.9	V
	$T_j = 100^\circ\text{C}$				1.8	

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t_{rr}	$T_j = 25^\circ\text{C}$	$I_F = 1\text{A}$	$di_F/dt = -15\text{A}/\mu\text{s}$	$V_R = 30\text{V}$		170	ns
		$I_F = 0.5\text{A}$	$I_R = 1\text{A}$	$I_{rr} = 0.25\text{A}$		70	

TURN-OFF SWITCHING CHARACTERISTICS (Without Series Inductance)

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t_{IRM}	$di_F/dt = -240\text{A}/\mu\text{s}$	$V_{CC} = 200\text{V}$ $I_F = 60\text{A}$ $L_p \leq 0.05\mu\text{H}$ $T_j = 100^\circ\text{C}$ See figure 1			200	ns
	$di_F/dt = -480\text{A}/\mu\text{s}$			120		
I_{RM}	$di_F/dt = -240\text{A}/\mu\text{s}$				40	A
	$di_F/dt = -480\text{A}/\mu\text{s}$			44		

TURN-OFF OVERVOLTAGE COEFFICIENT (With Series Inductance)

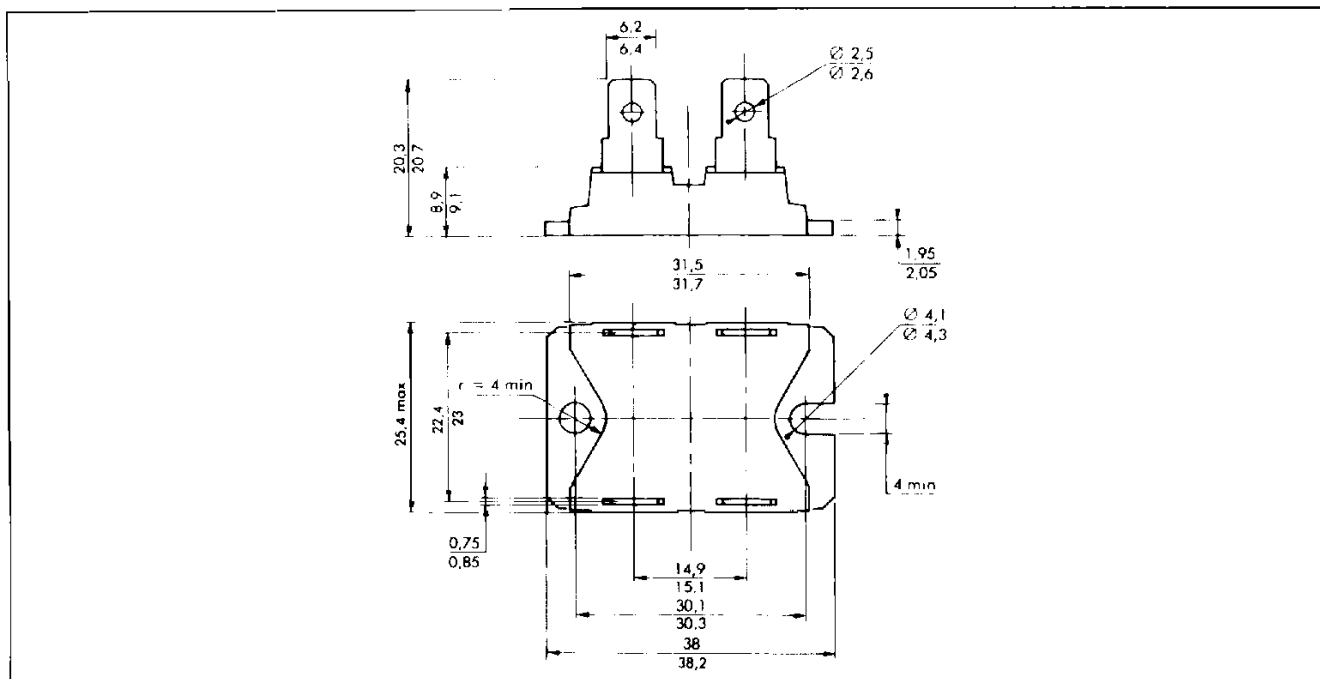
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$C = \frac{V_{RP}}{V_{CC}}$	$T_j = 100^\circ\text{C}$ $di_F/dt = -60\text{A}/\mu\text{s}$	$V_{CC} = 200\text{V}$ $I_F = I_{F(AV)}$ $L_p = 2.5\mu\text{H}$ See figure 2		3.3	4.5	

To evaluate the conduction losses use the following equations :

$$V_F = 1.47 + 0.005 I_F \quad P = 1.47 \times I_{F(AV)} + 0.005 I_{F(RMS)}^2$$

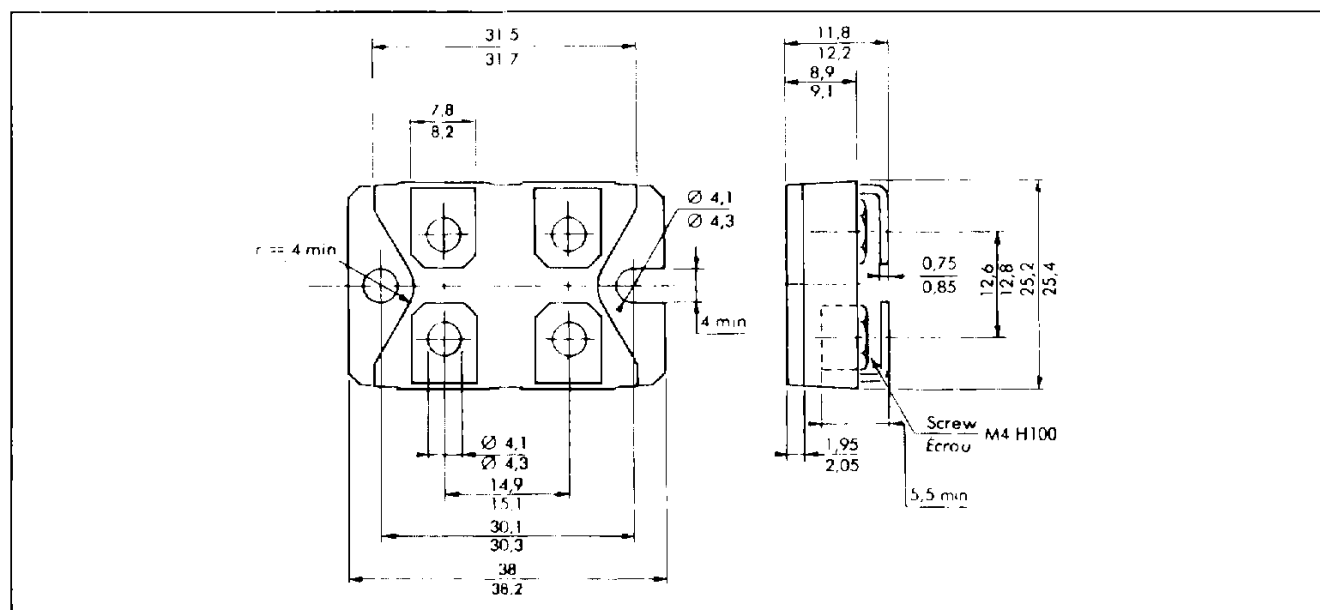
PACKAGE MECHANICAL DATA

ISOTOP Plastic : FAST-ON VERSION



Marking type number

ISOTOP Plastic : SCREW VERSION



Marking : type number + Suffix V

Recommended screw torque value : $13 \pm 2 \text{ kg.cm}$.
 Maximum screw torque value : 15 kg.cm .

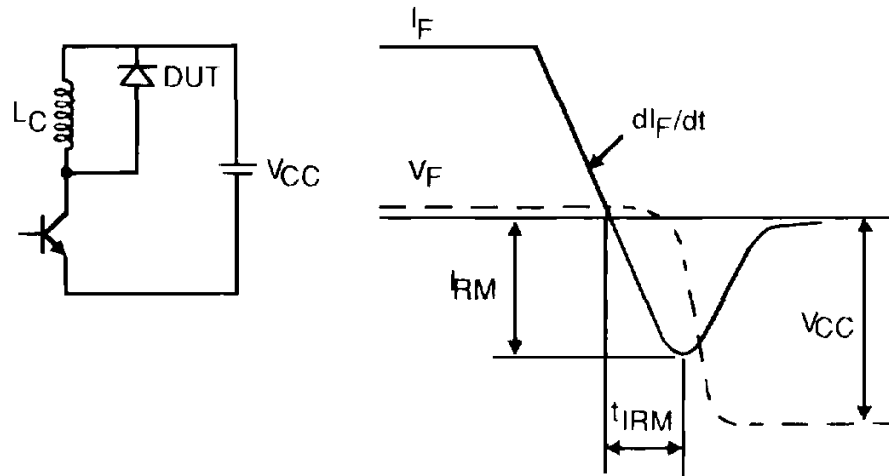


Figure 1 : Turn-off switching characteristics (without series inductance).

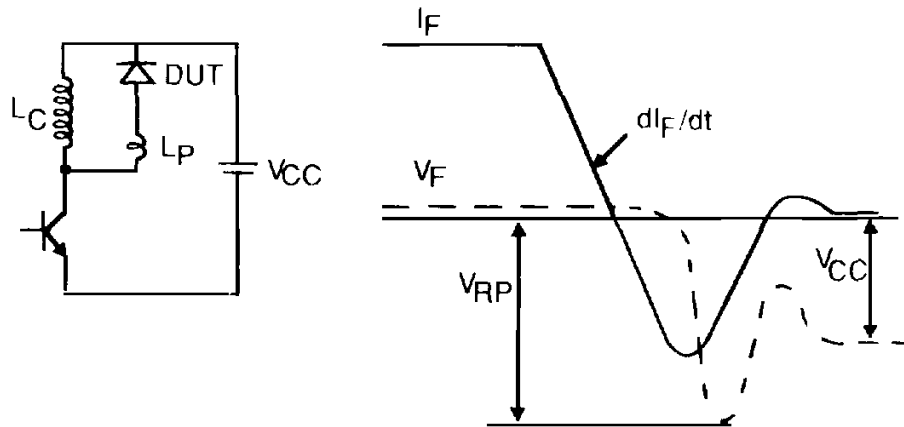


Figure 2 : Turn-off switching characteristics (with series inductance).