



HIGH EFFICIENCY FAST RECOVERY RECTIFIER DIODES

- VERY SMALL CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD AND REVERSE RECOVERY TIMES
- INSULATED : capacitance 55pF
- DOUBLE TWIN CHIPS

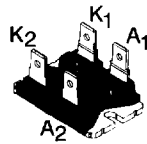
SUITABLE APPLICATIONS

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

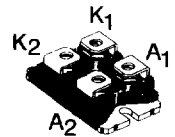
DESCRIPTION

Low voltage drop double rectifiers.

Insulating voltage 2500 V_{RMS}



Fast-on version



Screw version

ISOTOP
(Plastic)

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
I _{FRM}	Repetitive Peak Forward Current	t _p ≤ 20μs	A
I _{F(RMS)}	RMS Forward Current	150 per leg	A
I _{F(AV)}	Average Forward Current	T _C = 110°C δ = 0.5	A
I _{FSM}	Surge non Repetitive Forward Current	t _p = 10ms Sinusoidal	A
P _{tot}	Power Dissipation	T _C = 110°C	W
T _{stg} T _J	Storage and Junction Temperature Range	- 40 to 150	°C

Symbol	Parameter	BYV 255(V) -				Unit
		50	100	150	200	
V _{RRM}	Repetitive Peak Reverse Voltage	50	100	150	200	V
V _{RSM}	Non Repetitive Peak Reverse Voltage	55	110	165	220	V

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction-case	0.4 per leg 0.25 total	°C/W
R _{th(c)}	Coupling	0.1	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS (per leg)

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I _R	T _j = 25°C	V _R = V _{RRM}			100	μA
	T _j = 100°C				10	mA
V _F	T _j = 25°C	I _F = 320A			1.25	V
	T _j = 100°C	I _F = 100A			0.85	

RECOVERY CHARACTERISTICS (per leg)

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t _r	T _j = 25°C V _R = 30V	I _F = 1A see figure 11	di _F /dt = - 50A/μs			80	ns
Q _{rr}	T _j = 25°C V _R ≤ 30V	I _F = 2A	di _F /dt = - 20A/μs			65	nC
t _{tr}	T _j = 25°C Measured at 1.1 x V _F	I _F = 1A	t _r = 5ns		10		ns
V _{FP}	T _j = 25°C	I _F = 1A	t _r = 5ns		1.5		V

TURN-OFF SWITCHING CHARACTERISTICS (per leg)

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I _{RM}	T _j = 100°C L _p ≤ 0.05μH See figure 12	I _F = 100A V _{CC} ≤ 0.6 V _{RRM}	di _F /dt = - 200A/μs		16	A
			di _F /dt = - 400A/μs		24	

To evaluate the conduction losses use the following equations :

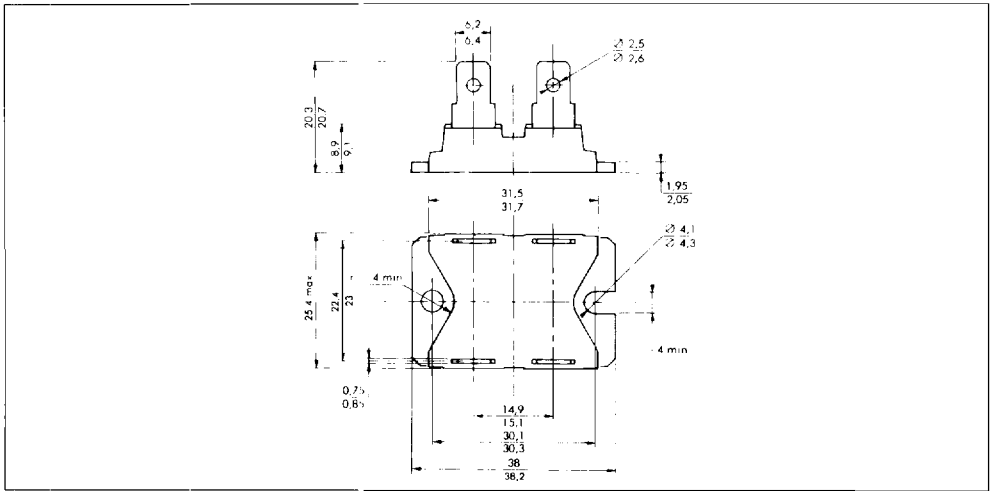
$$V_F = 0.7 + 0.00135 I_F$$

$$1 \text{ leg} : P = 0.7 \times I_F (AV) + 0.00135 I_F^2 (RMS)$$

$$\text{Total} : P = 0.7 \times I_F (AV) + 0.0007 I_F^2 (RMS)$$

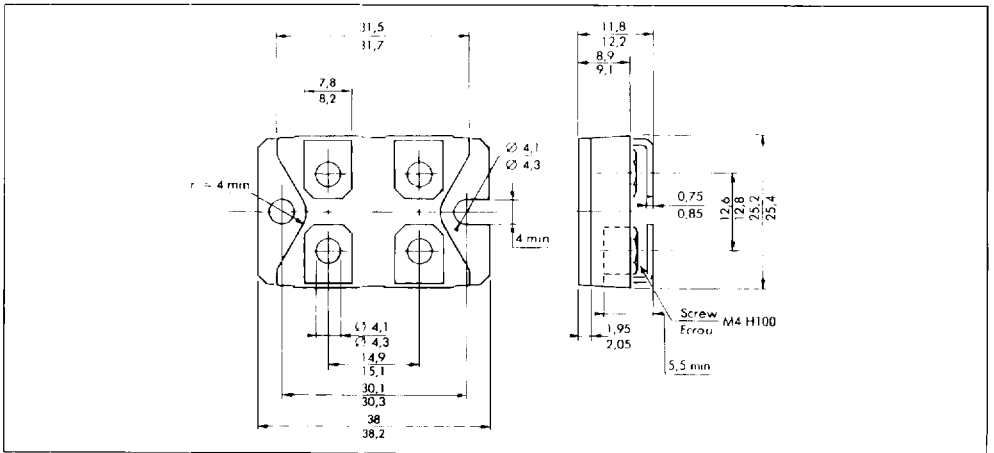
PACKAGE MECHANICAL DATA

ISOTOP Plastic : FAST-ON VERSION



Marking : type number

ISOTOP Plastic : SCREW VERSION



Marking : type number + suffix V

Recommended screw torque value : 13 ± 2 Kg.cm.
 Maximum screw torque value : 15 Kg.cm.