

HIGH EFFICIENCY SWITCHED MODE RECTIFIER

PRELIMINARY DATASHEET

MAIN PRODUCT CHARACTERISTICS

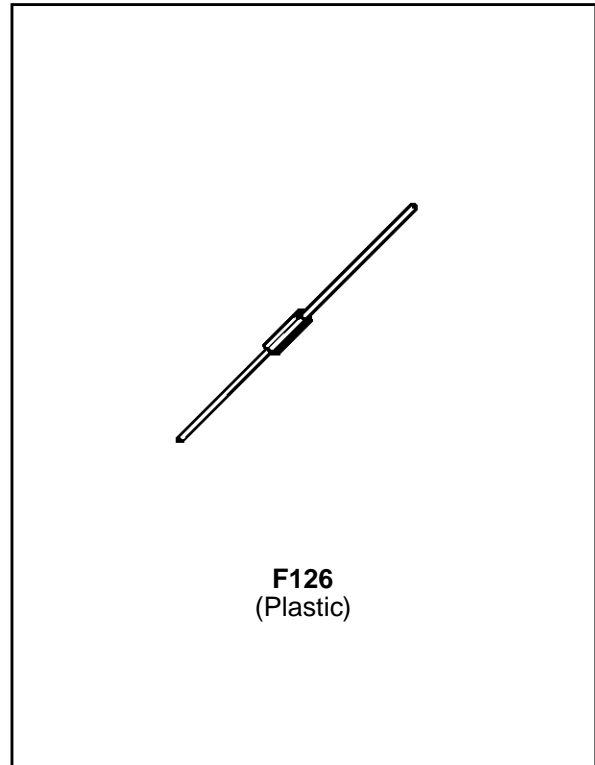
$I_{F(AV)}$	2 A
V_{RRM}	200 V
V_F (max)	0.8 V

FEATURES AND BENEFITS

- VERY LOW CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD AND REVERSE RECOVERY TIMES
- HIGH SURGE CURRENT

DESCRIPTION

Low voltage drop rectifiers suited for Switched Mode Power Supplies and for switching mode base drive and transistor circuits.



ABSOLUTE MAXIMUM RATINGS (limiting values)

Symbol	Parameter	Value	Unit	
V_{RRM}	Repetitive Peak Reverse Voltage	200	V	
V_{RSM}	Non Repetitive Peak Reverse Voltage	220	V	
I_{FRM}	Repetive Peak Forward Current	$t_p \leq 20\mu s$	70	A
$I_{F(AV)}$	Average Forward Current*	$T_a = 75^\circ C$ $\delta = 0.5$	2	A
I_{FSM}	Surge non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	70	A
P_{tot}	Power Dissipation *	$T_a = 75^\circ C$	1.85	W
T_{stg} T_j	Storage Temperature Range Max. Junction Temperature	- 40 to + 150 + 150		$^\circ C$
T_L	Maximum Lead Temperature for Soldering during 10s at 4mm from Case	230		$^\circ C$

* On infinite heatsink with 10mm lead length.

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient thermal resistance *	40	°C/W

* On infinite heatsink with 10mm lead length.

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_R	Reverse leakage current	$V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$			10	μA
			$T_j = 100^\circ\text{C}$			0.5	mA
V_F	Forward voltage drop	$I_F = 2\text{A}$	$T_j = 25^\circ\text{C}$			1	V
			$T_j = 100^\circ\text{C}$			0.8	

RECOVERY CHARACTERISTICS

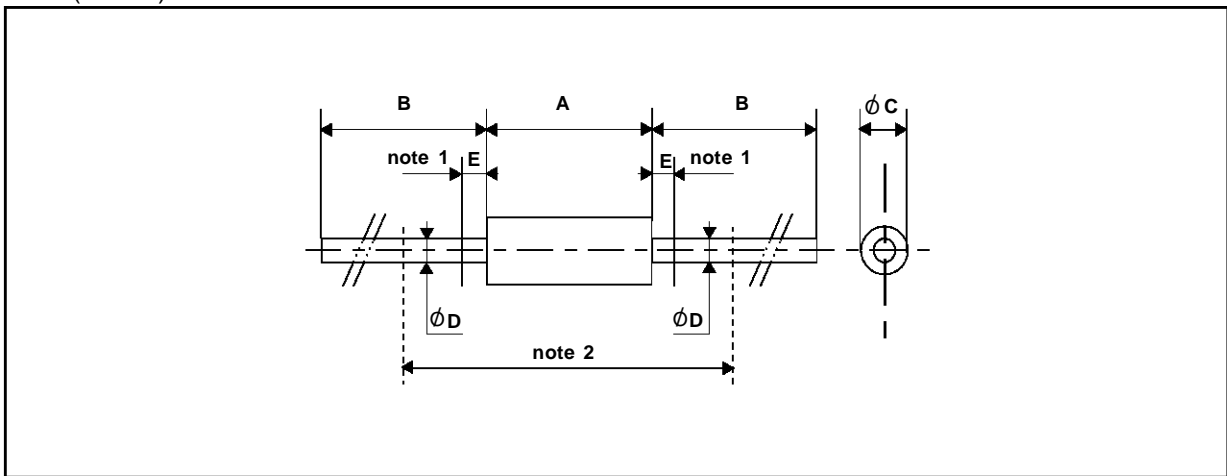
Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t_{rr}	$T_j = 25^\circ\text{C}$ $V_R = 30\text{V}$	$I_F = 1\text{A}$	$di_F/dt = -50\text{A}/\mu\text{s}$			35	ns
Q_{rr}	$T_j = 25^\circ\text{C}$ $V_R \leq 30\text{V}$	$I_F = 2\text{A}$	$di_F/dt = -20\text{A}/\mu\text{s}$		12		nC
t_{fr}	$T_j = 25^\circ\text{C}$ Measured at $1.1 \times V_F$	$I_F = 1\text{A}$	$t_r = 10\text{ns}$		20		ns
V_{FP}	$T_j = 25^\circ\text{C}$	$I_F = 1\text{A}$	$t_r = 10\text{ns}$		5		V

To evaluate the conduction losses use the following equation:

$$P = 0.68 \times I_{F(AV)} + 0.06 I_{F(RMS)}^2$$

PACKAGE MECHANICAL DATA

F126 (Plastic)



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A	6.05	6.35	0.238	0.250	1 - The lead diameter $\varnothing D$ is not controlled over zone E 2 - The minimum axial length within which the device may be placed with its leads bent at right angles is 0.59"(15 mm)
B	26		1.024		
$\varnothing C$	2.95	3.05	0.116	0.120	
$\varnothing D$	0.76	0.86	0.029	0.034	
E		1.27		0.050	

Cooling method: by convection (method A)
 Marking: type number; ring at cathode end
 Weight: 0.4g

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