



## HIGH EFFICIENCY SWITCHED MODE RECTIFIER

### MAIN PRODUCT CHARACTERISTICS

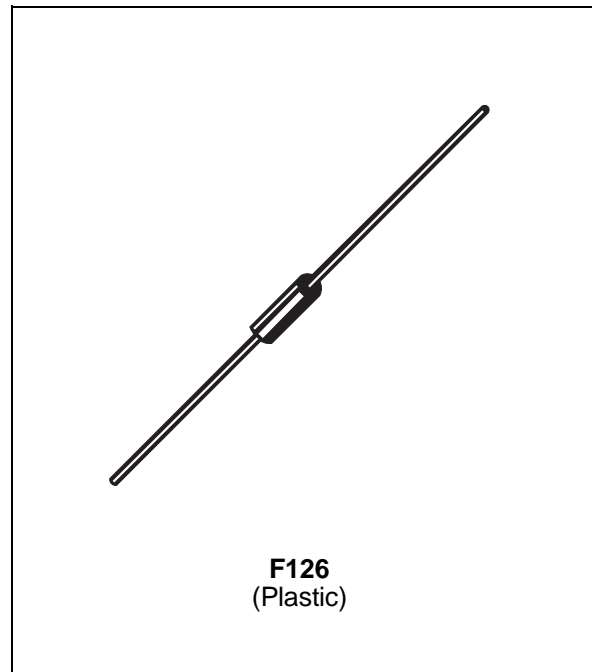
<b>I<sub>F(AV)</sub></b>	<b>2A</b>
<b>V<sub>RRM</sub></b>	<b>200V</b>
<b>V<sub>F(max)</sub></b>	<b>0.8V</b>

### 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 circuit.



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit	
V <sub>RRM</sub>	Repetitive peak reverse voltage	200	V	
V <sub>RSM</sub>	Non repetitive peak reverse voltage	220	V	
I <sub>FRM</sub>	Repetive peak forward current	t <sub>p</sub> < 20μs	70	A
I <sub>F(AV)</sub>	Average forward current *	T <sub>a</sub> = 75°C δ = 0.5	2	A
I <sub>FSM</sub>	Surge non repetitive forward current	t <sub>p</sub> = 10ms Sinusoidal	70	A
P <sub>tot</sub>	Power dissipation *	T <sub>a</sub> = 75°C	1.85	W
T <sub>stg</sub> T <sub>j</sub>	Storage temperature range Maximum junction temperature	- 40 to + 150 150	°C	
T <sub>L</sub>	Maximum lead temperature for soldering during 10s at 4mm from case	230	°C	

\* On infinite heatsink with 10mm lead length

## STSR220

### 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.

### STATIC ELECTRICAL CHARACTERISTICS

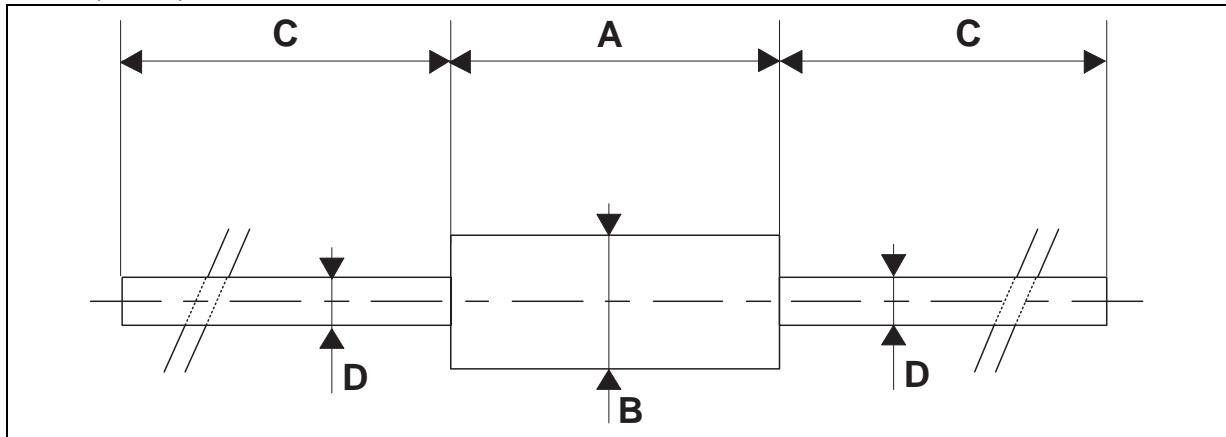
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$I_R$	Reverse leakage current	$V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$			10	$\mu\text{A}$
			$T_j = 100^\circ\text{C}$			0.5	mA
$V_F$	Forward voltage drop	$I_F = 2\text{A}$	$T_j = 25^\circ\text{C}$			1	V
		$I_F = 2\text{A}$	$T_j = 100^\circ\text{C}$			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
$Q_{rr}$	$T_j = 25^\circ\text{C}$ $V_R < 30\text{V}$	$I_F = 2\text{A}$	$di_F/dt = -20\text{A}/\mu\text{s}$		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					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.05	6.20	6.35	0.238	0.244	0.250
B	2.95	3.00	3.05	0.116	0.118	0.120
C	26		31	1.024		1.220
D	0.76	0.81	0.86	0.030	0.032	0.034

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

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