

HIGH EFFICIENCY FAST RECOVERY DIODE

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	1 A
V_{RRM}	200 V
$t_{rr} (max)$	35 ns

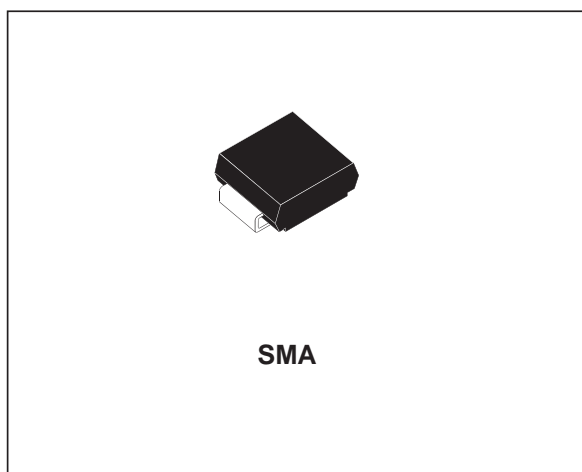
FEATURES AND BENEFITS

- VERY LOW SWITCHING LOSSES
- LOW FORWARD VOLTAGE DROP
- SURFACE MOUNT DEVICE
- FAST RECTIFIER EPITAXIAL DIODE

DESCRIPTION

Single chip rectifier suited to Switched Mode Power Supplies and high frequency DC/DC converters.

Packaged in SMA, this surface mount device is intended for use in low voltage, high frequency inverters, free wheeling and polarity protection applications.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive peak reverse voltage		200	V
$I_{F(RMS)}$	RMS forward current		8	A
$I_{F(AV)}$	Average forward current	$T_{Lead} = 125^{\circ}C$ $\delta = 0.5$	1	A
I_{FSM}	Surge non repetitive forward current	$t_p = 10\ ms$ Sinusoidal	30	A
T_{stg}	Storage temperature range		- 65 to + 150	$^{\circ}C$
T_j	Maximum junction temperature		150	$^{\circ}C$

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-l)}$	Junction to lead	30	$^{\circ}C/W$

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I_R^*	Reverse leakage current	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$			3	μA
		$T_j = 125^\circ\text{C}$			180	400	
V_F^{**}	Forward voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 1\text{ A}$			0.94	V
		$T_j = 150^\circ\text{C}$	$I_F = 1\text{ A}$		0.69	0.74	

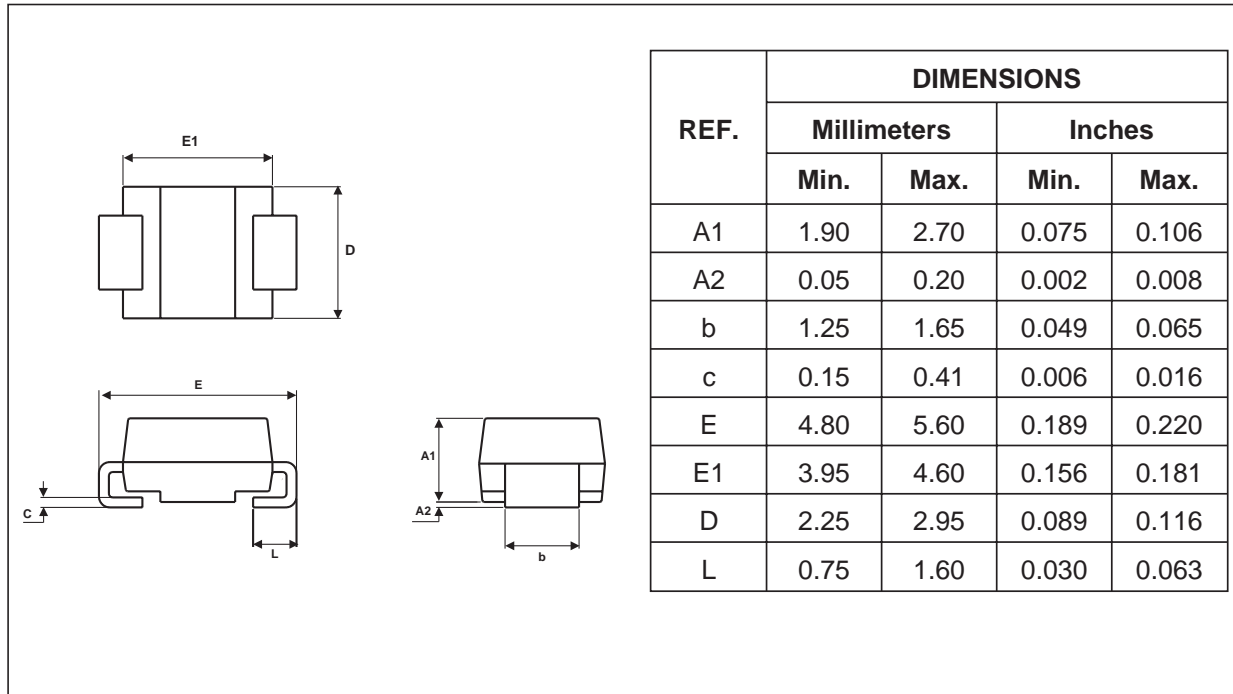
Pulse test : * $t_p = 5\text{ms}$, $\delta < 2\%$
 ** $t_p = 380\ \mu\text{s}$, $\delta < 2\%$

RECOVERY CHARACTERISTICS

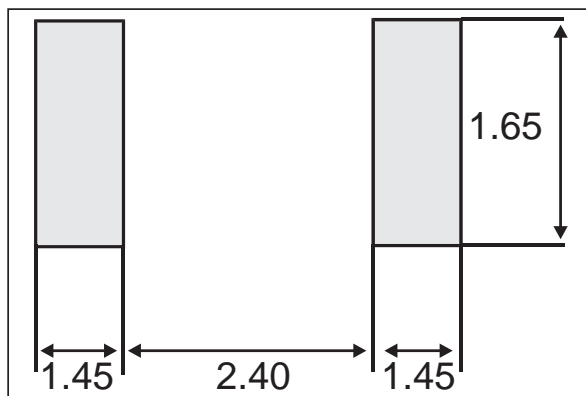
Symbol	Tests Conditions		Min.	Typ.	Max.	Unit
t_{rr}	$T_j = 25^\circ\text{C}$	$I_F = 0.50\text{ A}$ $I_{rr} = 0.25\text{ A}$ $I_R = 1\text{ A}$			25	ns
		$I_F = 1\text{ A}$ $di_F/dt = 50\text{ A}/\mu\text{s}$ $V_R = V_{RRM}$		25	35	
t_{FR}	$T_j = 25^\circ\text{C}$	$I_F = 1\text{ A}$ $di_F/dt = 100\text{ A}/\mu\text{s}$ Measured at 1 V			25	
V_{FP}	$T_j = 25^\circ\text{C}$	$I_F = 1\text{ A}$ $di_F/dt = 100\text{ A}/\mu\text{s}$			5	V

To evaluate the maximum conduction losses use the following equation :
 $P = 0.62 \times I_{F(AV)} + 0.12 \times I_{F(RMS)}^2$

PACKAGE MECHANICAL DATA
SMA



FOOT PRINT (in millimeters)



- **Marking** : R12
- Cathode band is inked
- Epoxy meets UL94-V0
- Weight: 0.06g