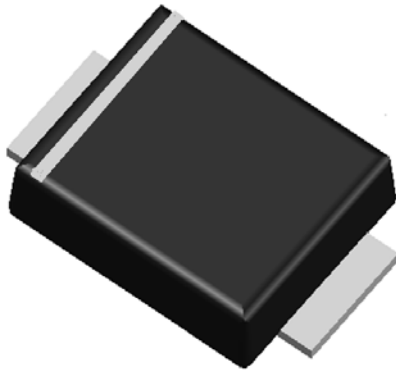


Surface Mount Super Fast Recovery Rectifier

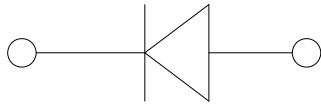


Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super Fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.



Mechanical Data

- **Package:** SMBF
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURS320BF	MURS340BF	MURS360BF
Device marking code			MURS320BF	MURS340BF	MURS360BF
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	200	400	600
Maximum RMS Voltage	V_{RMS}	V	140	280	420
Maximum DC blocking Voltage	V_{DC}	V	200	400	600
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I_o	A	3.0		
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Tj=25°C	I_{FSM}	A	100		
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25°C			200		
Current squared time @1ms≤t≤8.3ms Tj=25°C	I^2t	A ² s	41.5		
Storage temperature	T_{stg}	°C	-55 ~ +150		
Junction temperature	T_j	°C	-55 ~ +150		



MURS320BF THRU MURS360BF

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MURS320BF	MURS340BF	MURS360BF
Maximum instantaneous forward voltage	V _F	V	I _{FM} =3.0A	0.92	1.25	
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	35	50	
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _j =25℃	5		
			T _j =125℃	50		
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	63	55	50

■Dynamic Characteristics

◆ MURS320BF

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T _{RR}	ns	T _J =25°C	I _F =1A, di/dt=-50A/us V _{RM} =30V	-	30	-
			T _J =25°C	I _F =3A di/dt=-200A/us V _{RM} =100V	-	29	-
			T _J =125°C		-	35	-
Peak recovery current	I _{RRM}	A	T _J =25°C		-	3.8	-
			T _J =125°C		-	6.5	-
Reverse recovery charge	Q _{rr}	nC	T _J =25°C		-	39.9	-
			T _J =125°C		-	113.2	-
Non-repetitive avalanche energy	E _{AS}	mJ	T _J =25°C	I _R =3.6 A, L=15 mH	116.6	-	-

◆ MURS340BF

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T _{RR}	ns	T _J =25°C	I _F =1A, di/dt=-50A/us V _{RM} =30V	-	40	-
			T _J =25°C	I _F =3A di/dt=-200A/us V _{RM} =200V	-	32	-
			T _J =125°C		-	52	-
Peak recovery current	I _{RRM}	A	T _J =25°C		-	4.8	-
			T _J =125°C		-	7.5	-
Reverse recovery charge	Q _{rr}	nC	T _J =25°C		-	76.5	-
			T _J =125°C		-	196.6	-
Non-repetitive avalanche energy	E _{AS}	mJ	T _J =25°C	I _R =0.8 A, L=15 mH	4.8	-	-

◆ MURS360BF

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T _{RR}	ns	T _J =25°C	I _F =1A, di/dt=-50A/us V _{RM} =30V	-	48	-
			T _J =25°C	I _F =3A di/dt=-200A/us V _{RM} =400V	-	47	-
			T _J =125°C		-	71	-
Peak recovery current	I _{RRM}	A	T _J =25°C		-	5.9	-
			T _J =125°C		-	9.0	-
Reverse recovery charge	Q _{rr}	nC	T _J =25°C		-	138.1	-
			T _J =125°C		-	319.6	-
Non-repetitive avalanche energy	E _{AS}	mJ	T _J =25°C	I _R =0.8 A, L=15 mH	4.8	-	-



MURS320BF THRU MURS360BF

■ Thermal Characteristics ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURS320BF	MURS340BF	MURS360BF
Typical Thermal resistance	$R_{\theta J-A}^{(1)}$	$^{\circ}\text{C/W}$	60		
	$R_{\theta J-L}^{(1)}$		20		
	$R_{\theta J-C}^{(1)}$		15		

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

■ Characteristics (Typical)

FIG.1: I_o -TL Curve

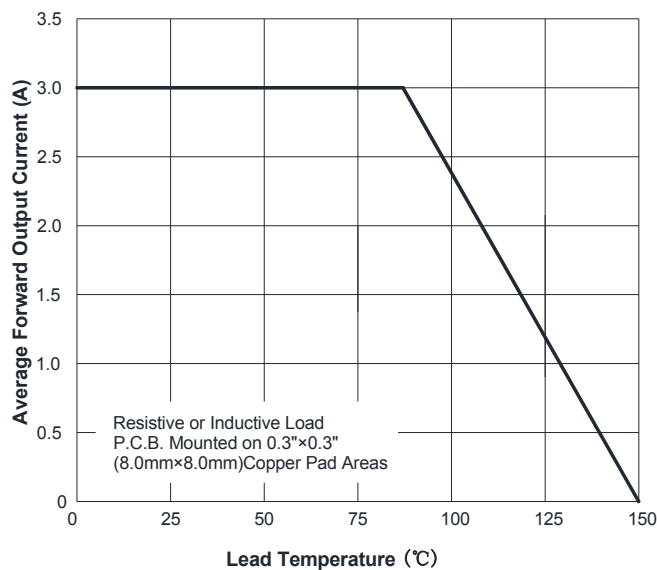


FIG.2: Forward Surge Current Capability

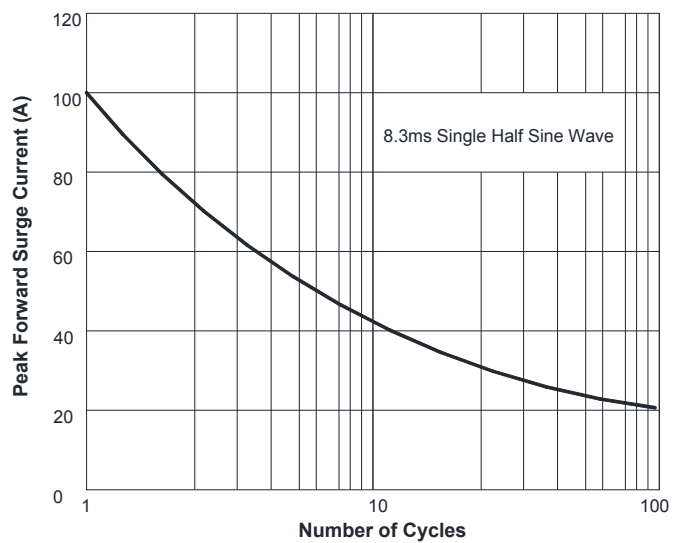


FIG.3: Typical Forward Voltage

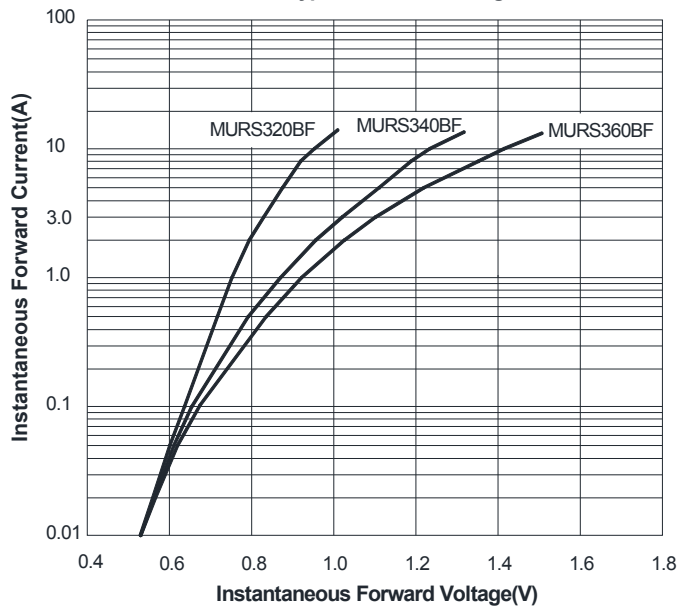
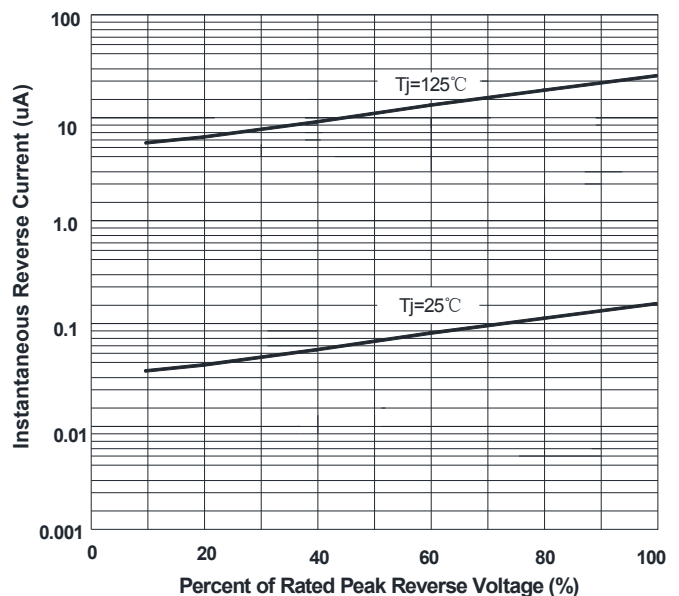


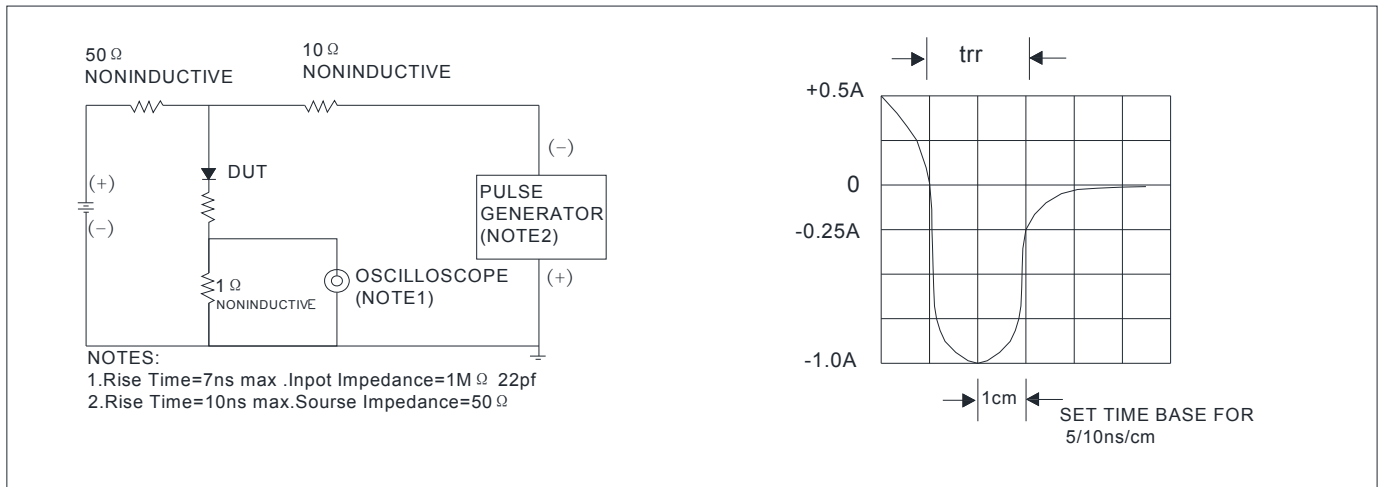
FIG.4: Typical Reverse Characteristics





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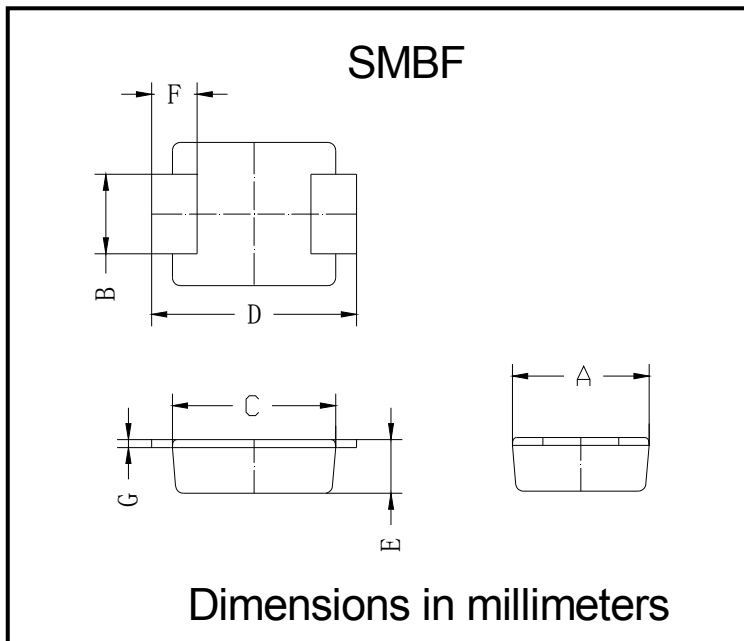
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURS320BF – MURS360BF	F1	Approximate 0.065	5000	/	80000	13" reel

■ Outline Dimensions

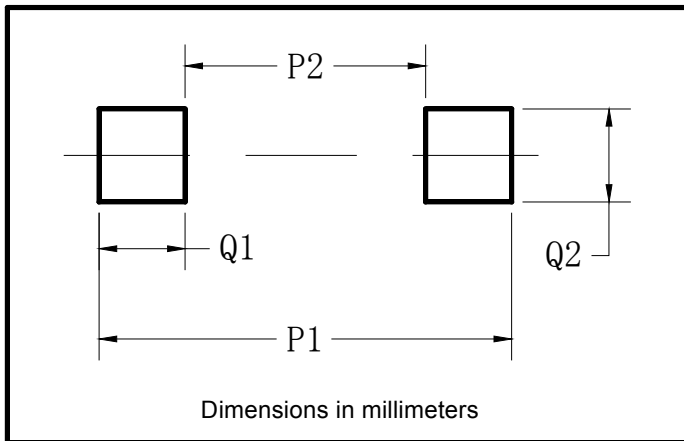


SMBF		
Dim	Min	Max
A	3.40	3.80
B	1.90	2.10
C	4.15	4.45
D	5.10	5.60
E	1.05	1.55
F	0.70	1.35
G	0.15	0.25



MURS320BF THRU MURS360BF

■ Suggested pad layout



Dim	Milimeters
P1	6.20
P2	2.40
Q1	1.90
Q2	2.20



MURS320BF THRU MURS360BF

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