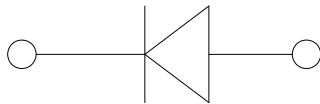
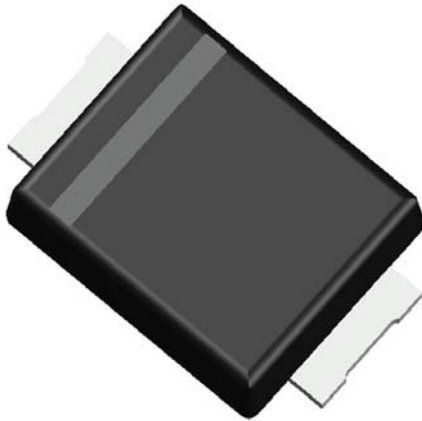


## Ultra-Fast Recovery Diodes 3A FRED



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

PARAMETER	SYMBOL	UNIT	MURF365BF
Device marking code			MURF365BF
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	V	650
Maximum RMS Voltage	$V_{RMS}$	V	455
Maximum DC blocking Voltage	$V_{DC}$	V	650
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, $T_j=25^\circ\text{C}$	$I_{FSM}$	A	100
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, $T_j=25^\circ\text{C}$			200
Current squared time @1ms $\leq t \leq 8.3$ ms $T_j=25^\circ\text{C}$	$I^2t$	$\text{A}^2\text{s}$	41.5
Storage temperature	$T_{stg}$	$^\circ\text{C}$	-55 ~ +175
Junction temperature	$T_j$	$^\circ\text{C}$	-55 ~ +175



# MURF365BF

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MURF365BF
Maximum instantaneous forward voltage	V <sub>F</sub>	V	I <sub>FM</sub> =3.0A	1.0
Maximum reverse recovery time	t <sub>rr</sub>	ns	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A	500
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	μA	T <sub>j</sub> =25°C	10
			T <sub>j</sub> =125°C	100
Typical junction capacitance	C <sub>j</sub>	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	30

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURF365BF
Typical Thermal resistance	R <sub>θJ-A</sub>	°C/W	70
	R <sub>θJ-C</sub>		10

## ■ Characteristics (Typical)

FIG.1: I<sub>o</sub>-T<sub>c</sub> Curve

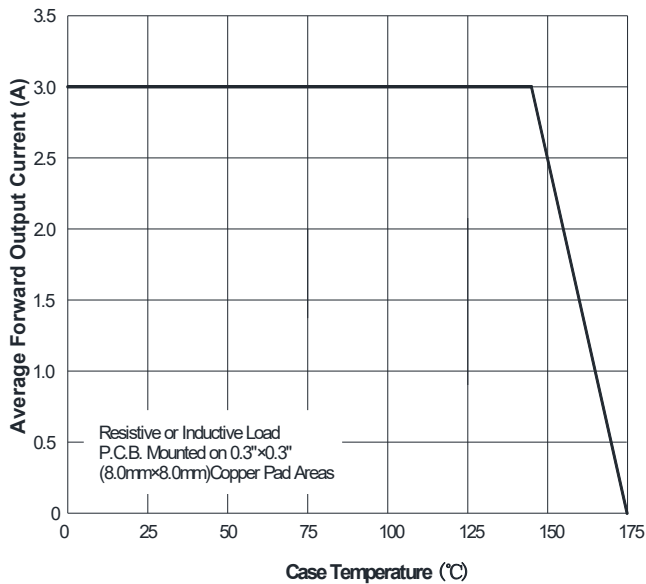
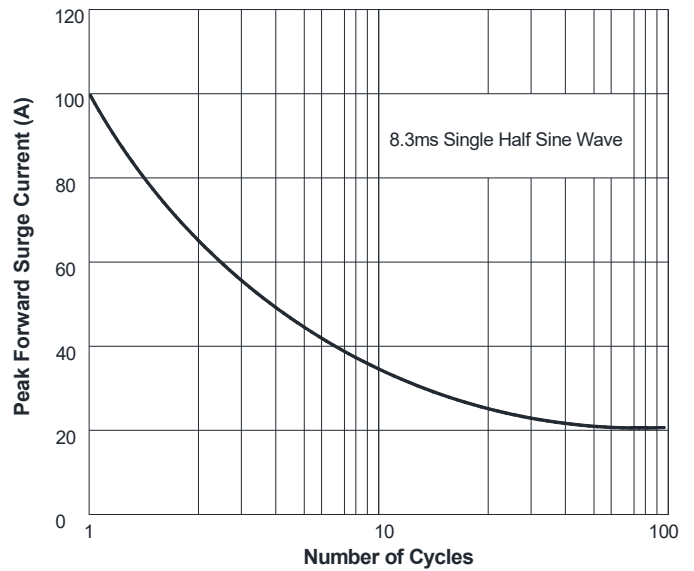


FIG.2: Forward Surge Current Capability





# MURF365BF

FIG.3: Typical Forward Voltage

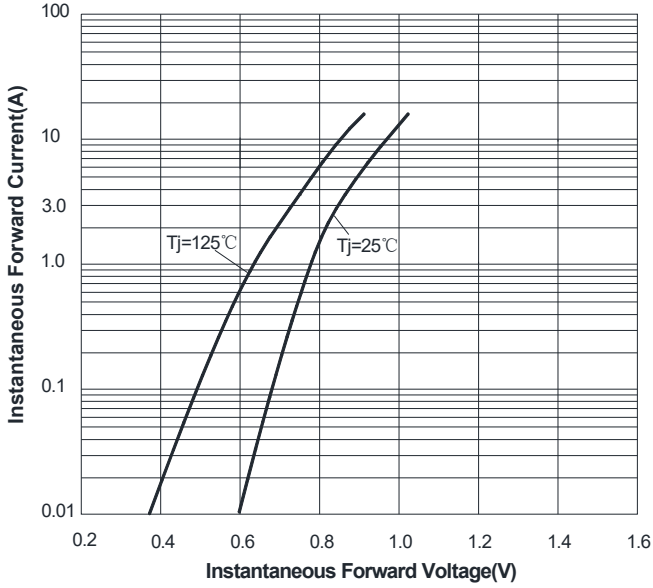


FIG.4: Typical Reverse Characteristics

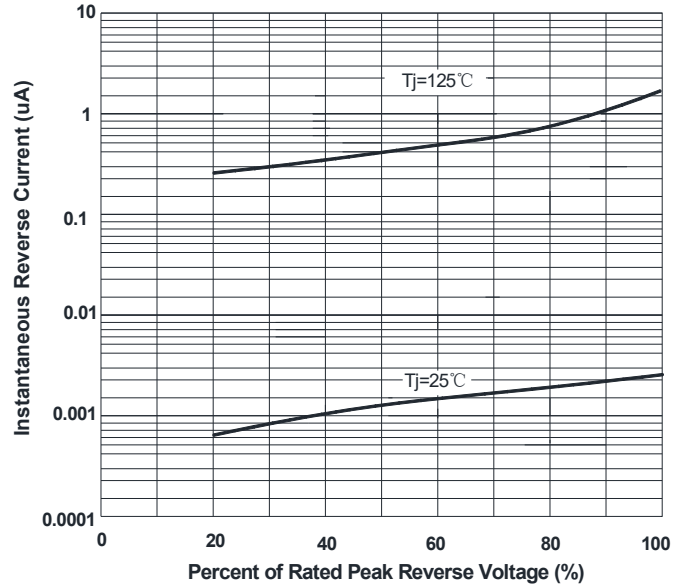
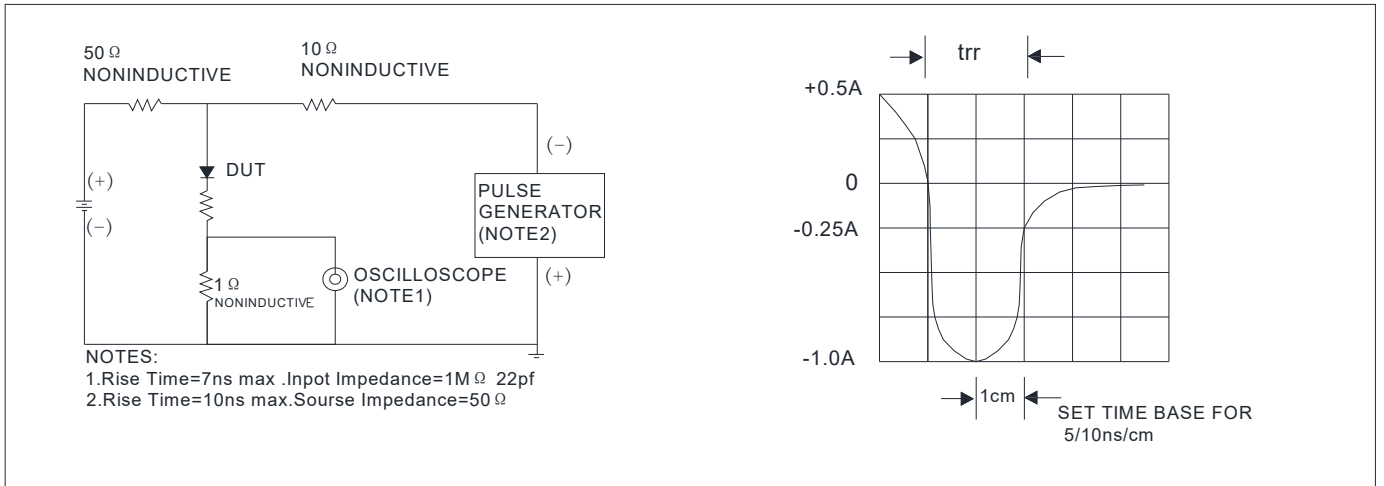


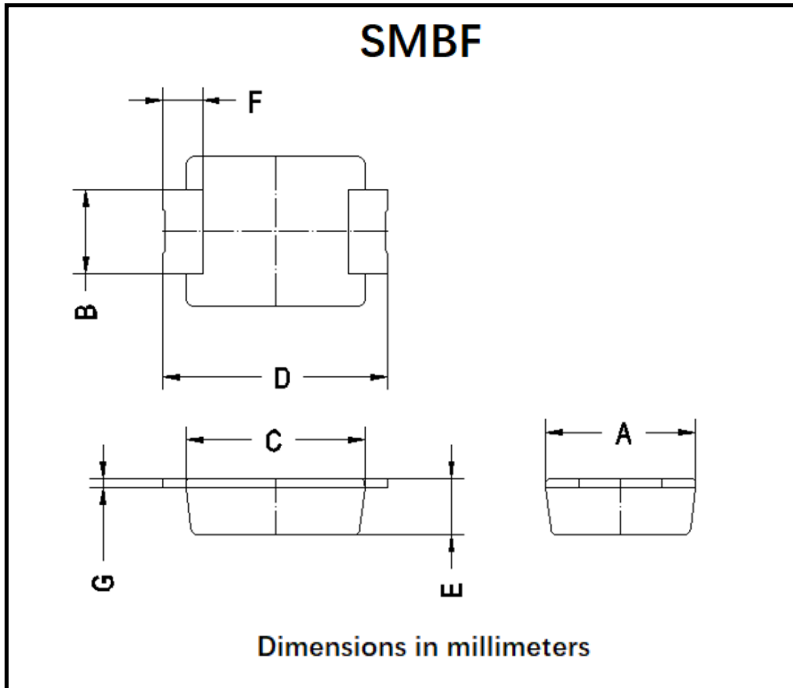
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



## Ordering Information (Example)

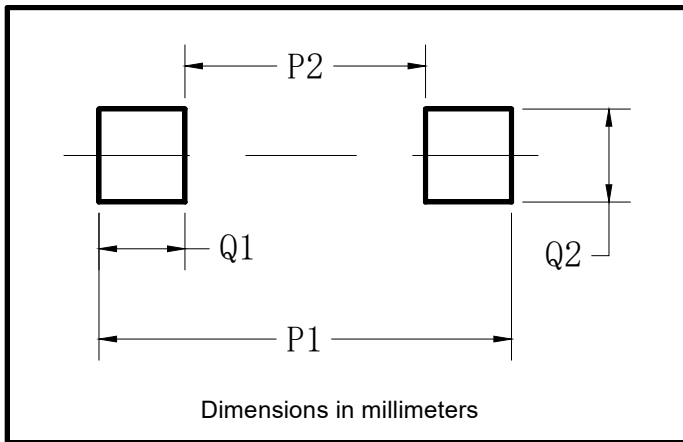
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURF365BF	F1	Approximate 0.065	5000	/	80000	13" reel

## ■ 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

## ■ Suggested pad layout



Dim	Milimeters
P1	6.20
P2	2.40
Q1	1.90
Q2	2.20



## MURF365BF

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