



**Ultra-fast Plastic Rectifiers Reverse Voltage 600V Forward Current 4A**

# MUR460SB

## Features

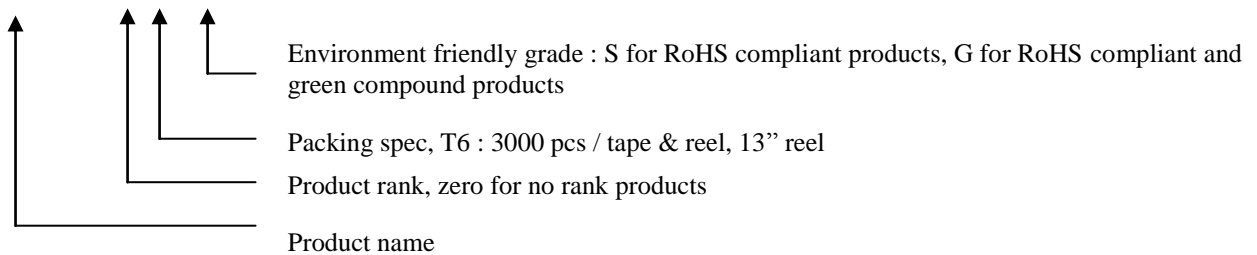
- Glass passivated junction
- Plastic package has UL flammability classification 94V-0
- Ultra-fast recovery time for high efficiency
- Ideally suited for use in very high frequency switching power supplies, inverters, and as a free wheeling diode
- Excellent high temperature switching

## Mechanical Data

- Case: Molded plastic, SMB/JEDEC DO-214AA.
- Terminals: Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight: 0.0878 gram

## Ordering Information

Device	Package	Shipping
MUR460SB-0-T6-G	SMB (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel



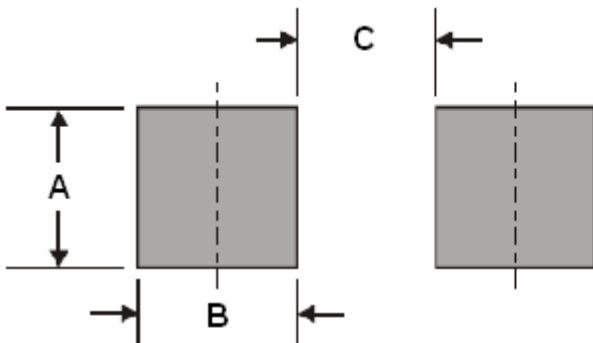
## Maximum Ratings and Electrical Characteristics

(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Type	Units
		MUR460	
Maximum repetitive peak reverse voltage	VRRM	600	V
Peak reverse working voltage	VRWM	600	V
Maximum DC blocking voltage	VDC	600	V
Maximum instantaneous forward voltage (Note 1)	VF	at 3A, T <sub>J</sub> =150°C	1.05
		at 3A, T <sub>J</sub> =25°C	1.25
		at 4A, T <sub>J</sub> =25°C	1.28
Maximum average forward rectified current (see Fig 1)	IF(AV)	4	A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method)	IFSM	125	A
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1)	IR	T <sub>J</sub> =25°C	10
		T <sub>J</sub> =150°C	250
Maximum reverse recovery time at IF=0.5A, IR=1A, I <sub>rr</sub> =0.25A	trr	50	ns
Maximum reverse recovery time at IF=1A, dI/dt=50A/μs, V <sub>R</sub> =30V, I <sub>rr</sub> =10%IRM	trr	75	ns
Maximum forward recovery time at IF=1A, dI/dt=100A/μs, recovery to 1V	trr	50	ns
Maximum thermal resistance, Junction to Lead	R <sub>th,JL</sub>	12 (typ)	°C/W
Operating junction and storage temperature range	T <sub>J</sub> ;T <sub>STG</sub>	-55 ~ +175	°C

Note: 1.Pulse test: pulse width≤300μs, duty cycle≤2%

## Recommended Footprint

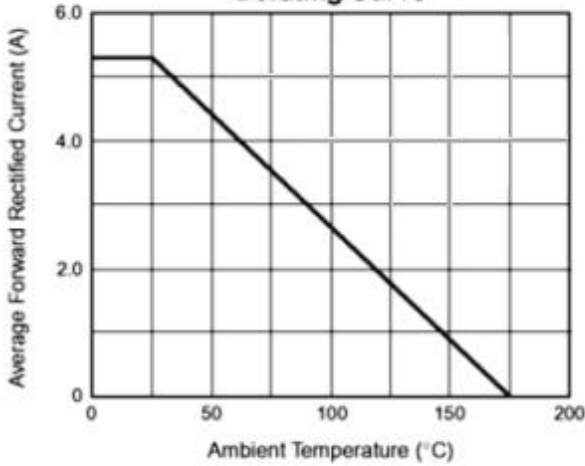


Dimensions in inches and (millimeter)

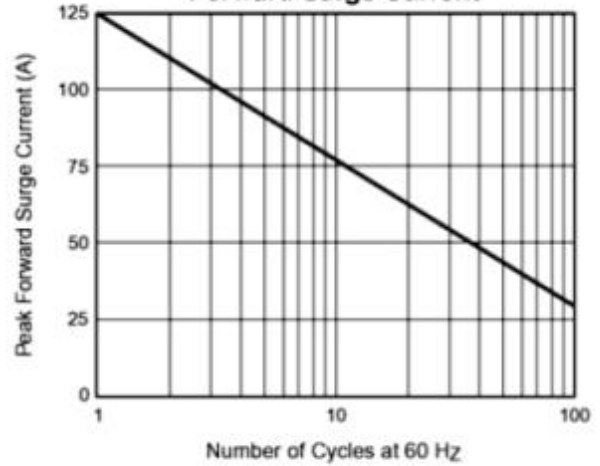
DIM	Inches	Millimeters
	Typ	Typ
A	0.142	3.60
B	0.059	1.50
C	0.118	3.00

**Characteristic Curves**

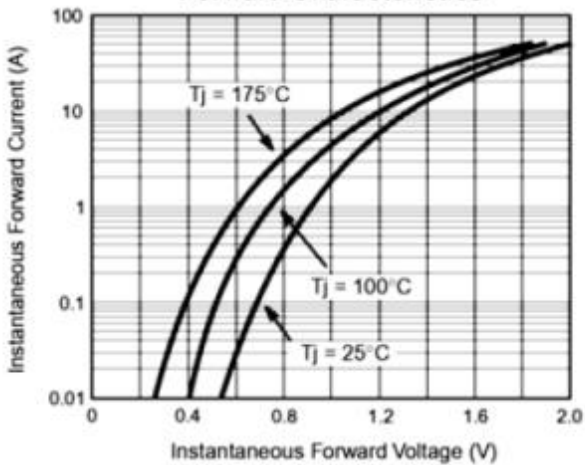
**Fig. 1 – Forward Current Derating Curve**



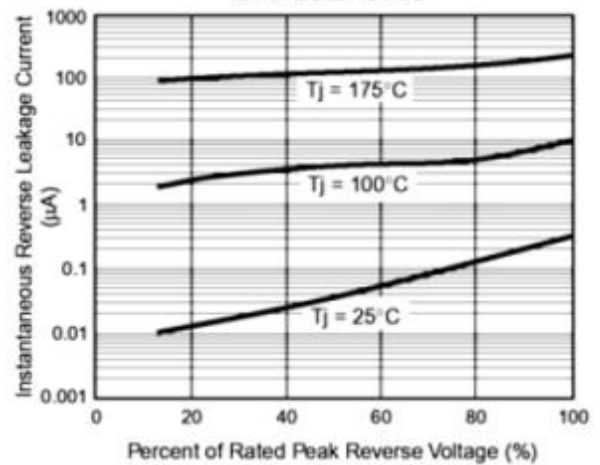
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



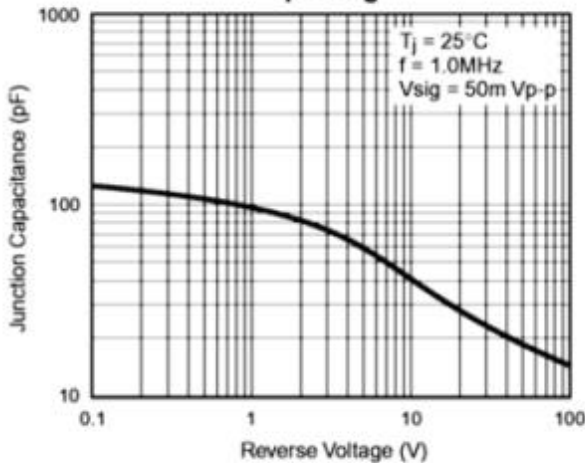
**Fig. 3 – MUR460 Typical Instantaneous Forward Characteristics**



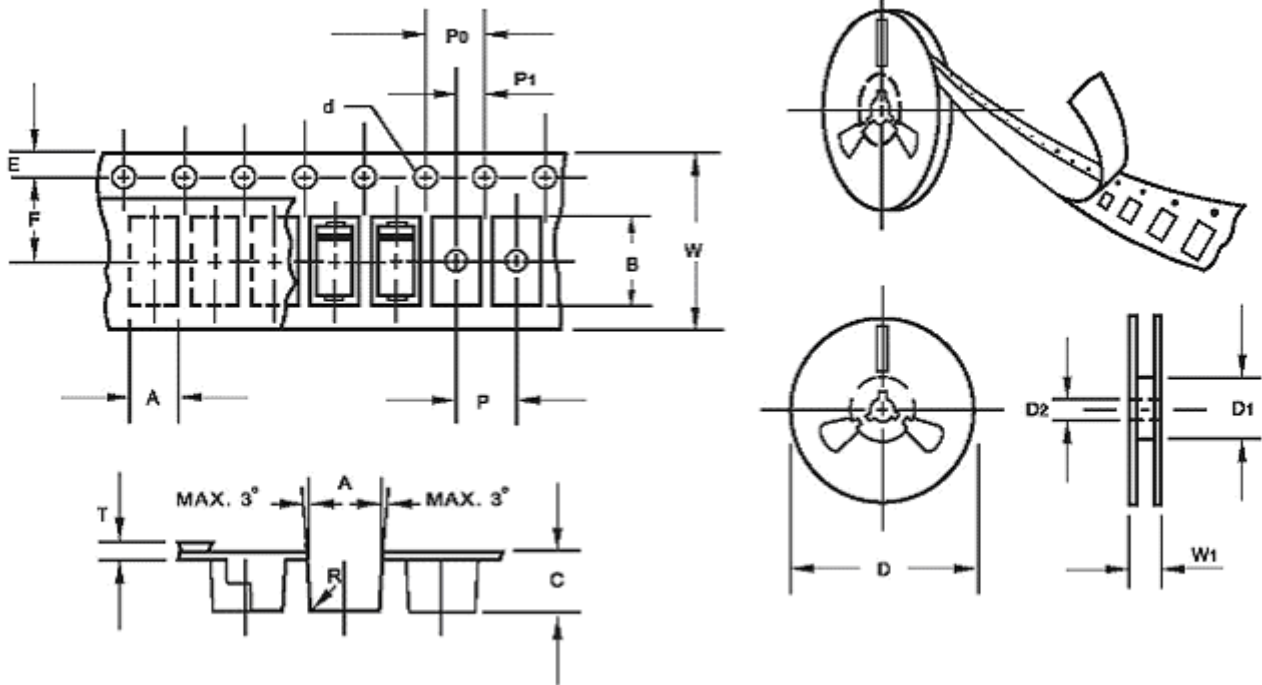
**Fig. 4 – MUR460 Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance per Leg**



**Taping Reel Dimension**

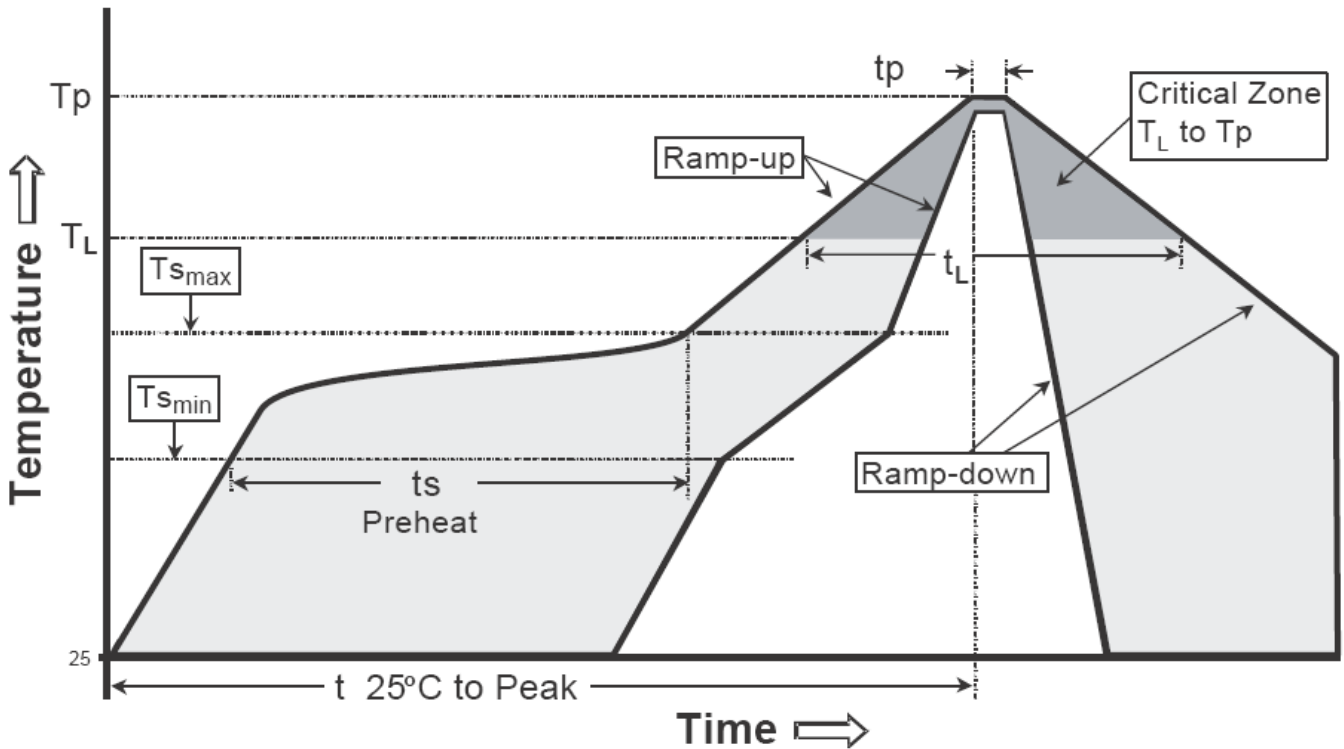


unit : mm

Item	Tolerance	Symbol	
Carrier width	0.10	A	SEE NOTE 2
Carrier length	0.10	B	
Carrier depth	0.10	C	
Sprocket hole	0.10	d	1.50
13" Reel outside diameter	2.00	D	330.0
13" Reel inner diameter	min.	D1	50.0
7" Reel outside diameter	2.00	D	178.0
7" Reel inner diameter	min.	D1	62.0
Feed hole diameter	0.50	D2	13.00
Sprocket hole position	0.10	E	1.75
Punch hole position	0.10	F	5.50
Punch hole pitch	0.10	P	8.00
Sprocket hole pitch	0.10	P0	4.00
Embossment center	0.10	P1	2.00
Tape width	0.30	W	12.00
Reel width	1.00	W1	16.80

NOTE: 1. Devices are packed in accordance with EIA standard RS-481-A and specification given above  
 2. A, B, and C are determined by the maximum dimensions of the component size.  
 The clearance between the component and the cavity must be within  
 0.05mm (0.002") min. to 0.5mm (0.02") max. for 8mm tape and 12mm tape,  
 0.15mm (0.066") min. to 0.90mm (0.035") max. for 16mm tape and  
 0.15mm (0.066") min. to 1.0mm (0.59") max. for 24mm tape.

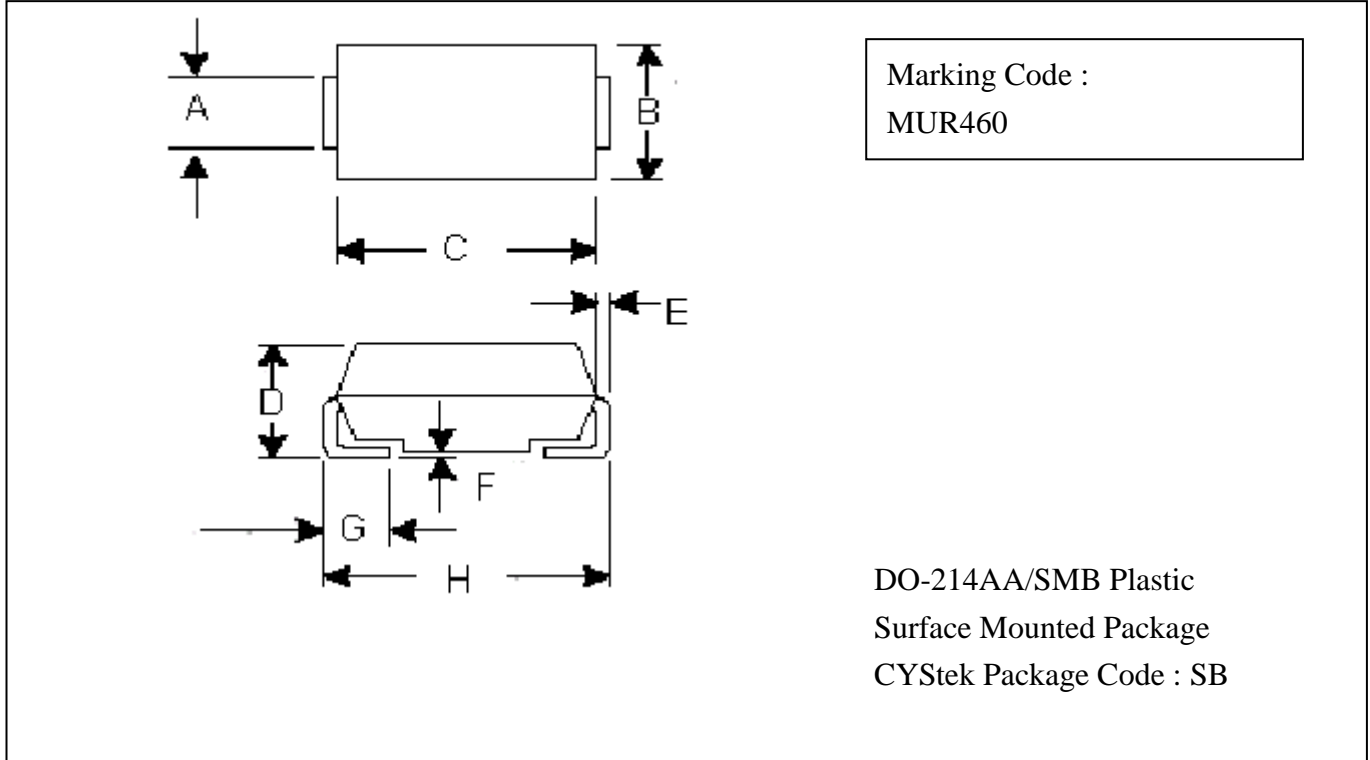
**Recommended temperature profile for IR reflow**



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (TL)	183°C	217°C
- Time (tL)	60-150 seconds	60-150 seconds
Peak Temperature(Tp)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

**DO-214AA/SMB Dimension**



\*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.076	0.082	1.93	2.08	E	0.006	0.012	0.15	0.31
B	0.137	0.147	3.48	3.73	F	0.004	0.008	0.10	0.20
C	0.167	0.187	4.25	4.75	G	0.035	0.056	0.90	1.41
D	0.078	0.103	1.99	2.61	H	0.207	0.215	5.26	5.46

Notes : 1.Controlling dimension : millimeters.  
 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material :**

- Lead : Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0.

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