

MSB20B-MSB20M

Rev.A Oct.-2023

/ Descriptions

2.0A UMSB
2.0A Surface Mount Glass Passivated Bridge Rectifier,UMSB thin package.

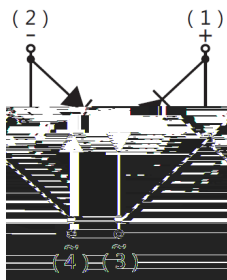
/ Features

Glass Passivated Chip Junction, High Surge Current Capability, Reverse Voltage :100 to 1000V,
Forward Current: 2.0A, Designed for Surface Mount Application,HF product.

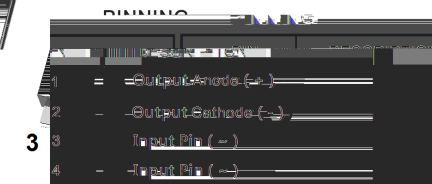
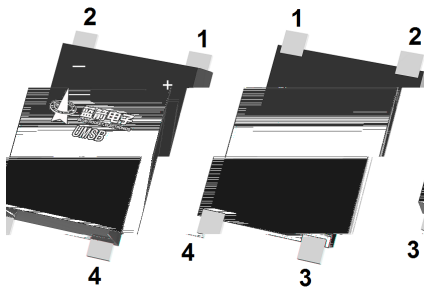
/ Applications

General purpose.

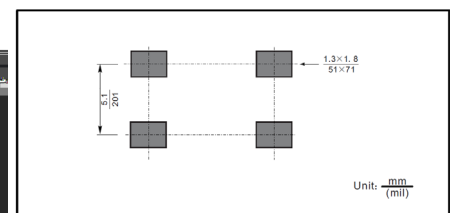
/ Equivalent Circuit



/ Pinning



The recommended mounting pad size



/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating						Unit
		MSB20B	MSB20D	MSB20G	MSB20J	MSB20K	MSB20M	
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	100	200	400	600	800	1000	V
Average Rectified Output Current	I _o	2.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	50						A
Typical Junction Capacitance Note1	C _i	30						pF
Typical Thermal Resistance Note2	R _{θJA} R _{θJC} R _{θJL}	60 10 25						/W
Operating and Storage Temperature Range	T _j , T _{stg}	-55~+150						

Note:

1. Measured at 1MHz and applied reverse voltage of 4 V D.C.
2. Mounted on glass epoxy PC board with 4×1.5"×1.5" 3.81×3.81 cm copper pad.

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Rating	Unit
Maximum Forward Voltage	V_F	$I_F=2.0A$	1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_a=25$	5	μA
		$T_a=125$	100	

/ Electrical Characteristic Curve

Figure 1: Average Power Dissipation Derating Curve

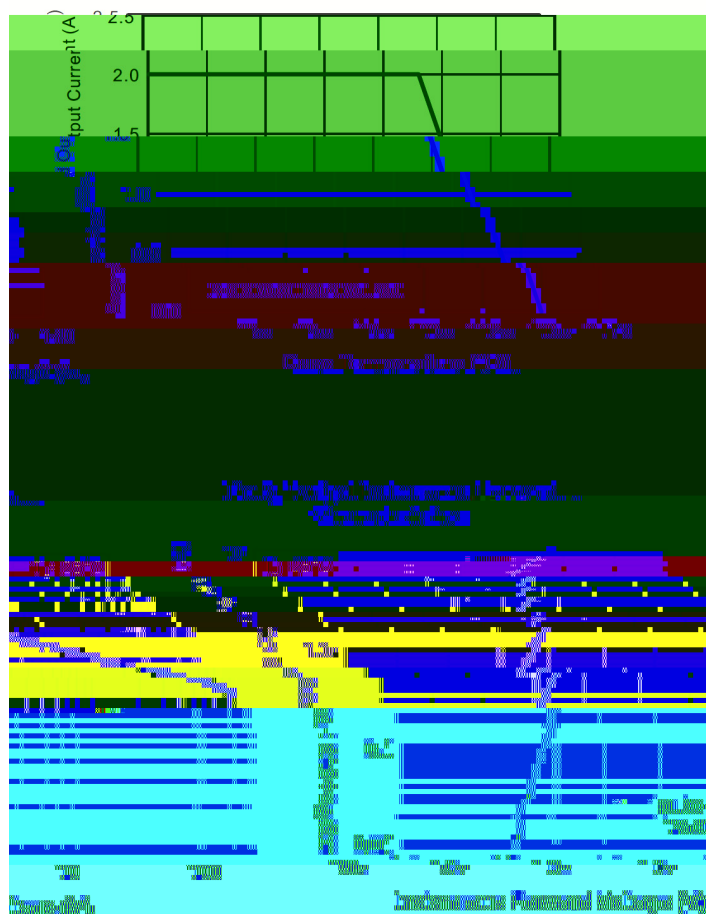


Figure 2: Typical Reverse Characteristics



Figure 3: Thermal Impedance

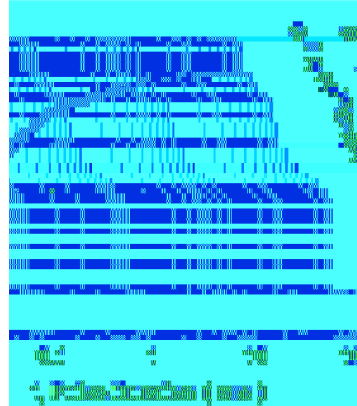


Figure 4: Switching Power Dissipation Transient Response

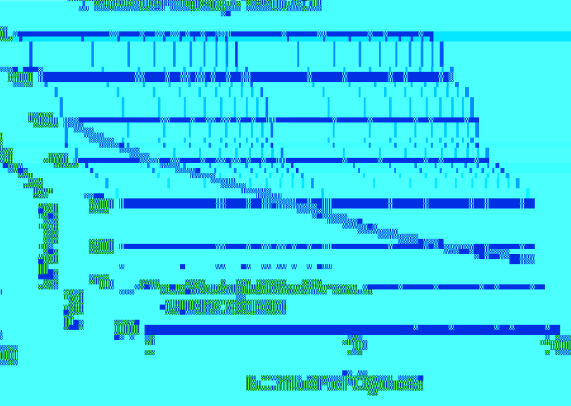
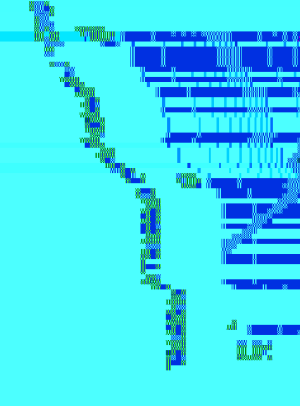
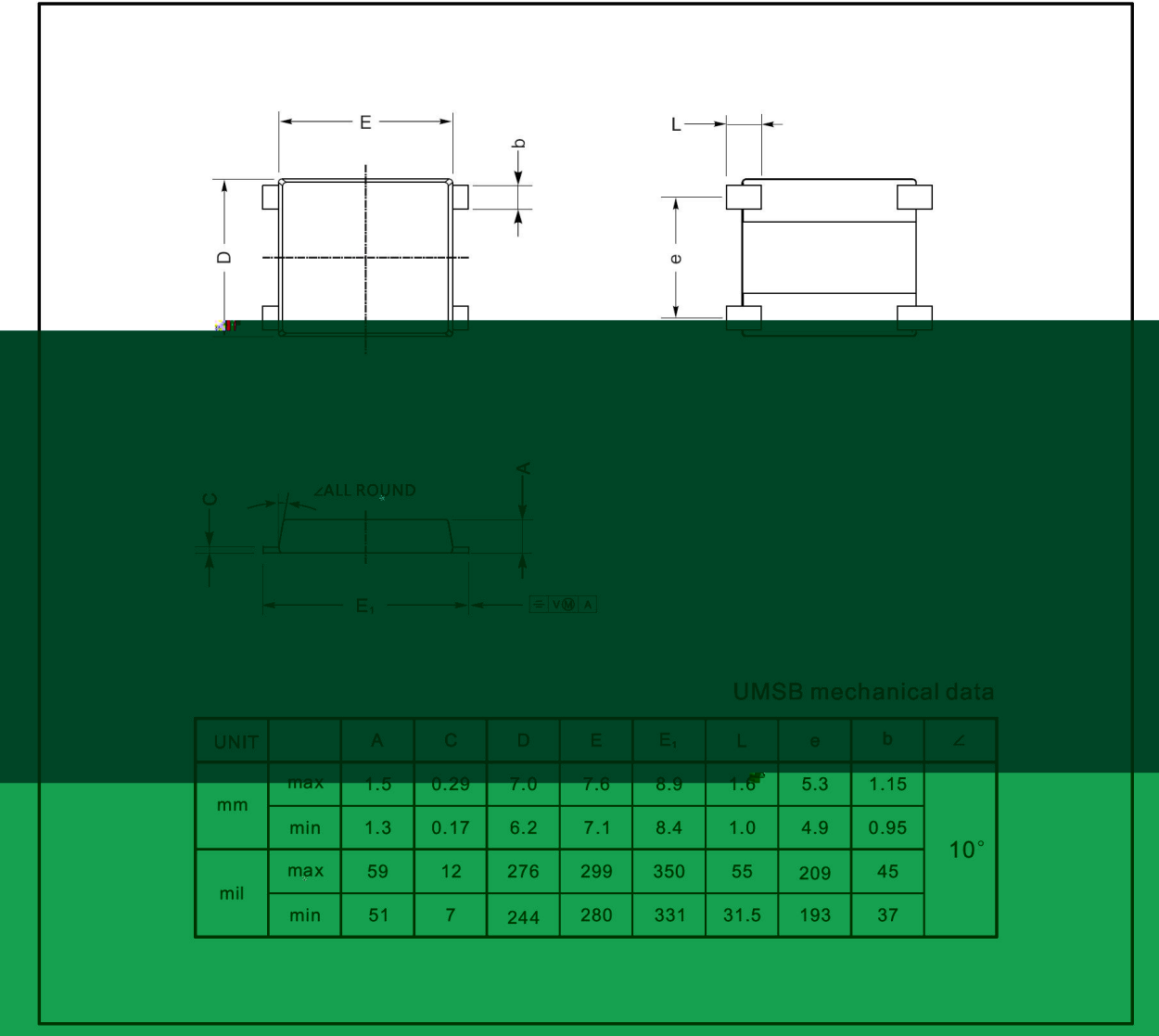


Figure 5: Typical Temperature

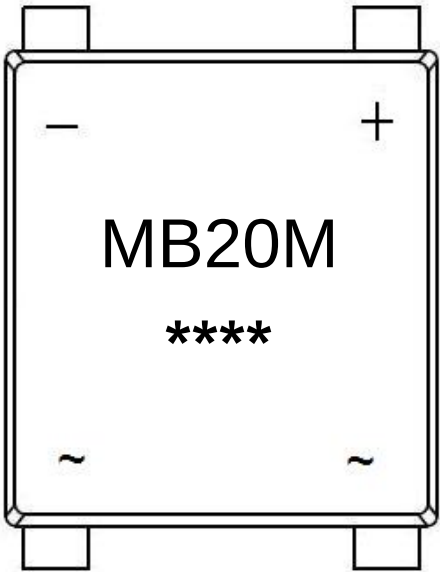


/ Package Dimensions

UMSB



/ Marking Instructions



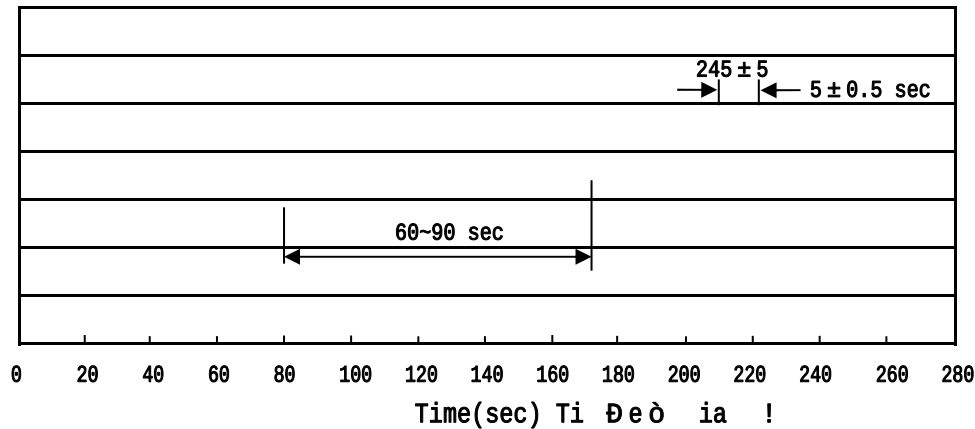
Note:

Product Type Code

Marking

Type number	Marking code
MSB20B	MB20B
MSB20D	MB20D
MSB20G	MB20G
MSB20J	MB20J
MSB20K	MB20K
MSB20M	MB20M

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245 5

5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260 5 10 1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 7>û ~ E	Units ;>û H					Dimension ;>û p . (unit Åmm³)		
	Units/Reel /-	Reels/Inner Box -- /-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Reel	Inner Box	Outer Boxç
UMSB	3,000	2	6,000	6	36,000	13"×16	337×337×49	380×335×366

/ Notices