

Miniature Glass Passivated Single Phase Surface Mount Bridge Rectifiers

Reverse Voltage 50 to 1000 Volts Forward Current 0.5 Ampere

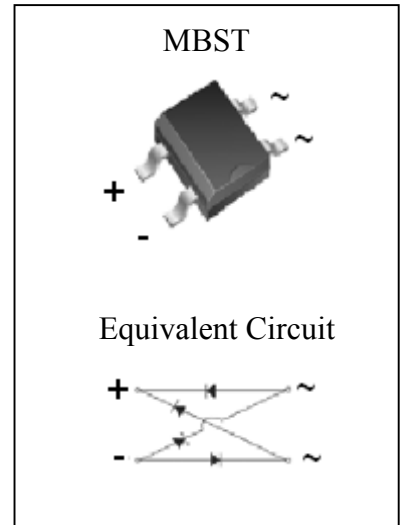
MB05ST05 thru MB10ST05

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Save space on printed circuit boards
- Glass passivated chip junction
- High surge overload rating: 30A peak

Mechanical Data

- Case: Molded plastic body over passivated junctions
- Terminals: Pure tin plated, solderable per MIL-STD-750 method 2026
- High temperature soldering guaranteed : 260°C/10 seconds, 0.375”(9.5mm) lead length, 5lbs(2.3kg) tension
- Mounting position: Any.
- Weight: 0.22gram, 0.078 oz.



Maximum Ratings and Electrical Characteristics

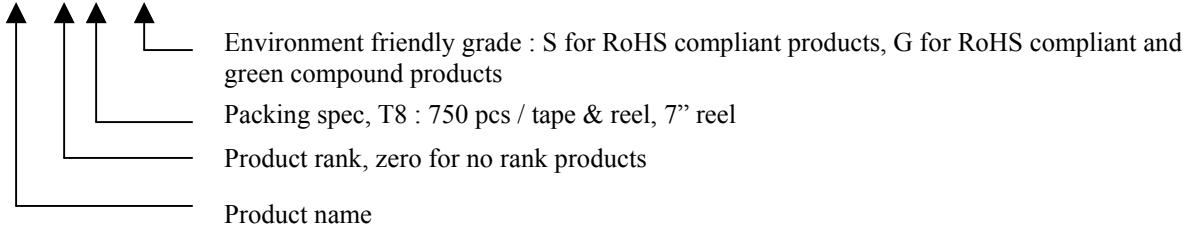
(Rating at 25°C ambient temperature unless otherwise specified.)

| Parameter | Symbol | Type | | | | | | | Units |
|---------------------------------------------------------------------------------------------------|----------|--------------|-------------|-------------|-------------|-------------|-------------|--------------|-------|
| | | MB05S T05 | MB1S T05 | MB2S T05 | MB4S T05 | MB6S T05 | MB8S T05 | MB10S T05 | |
| Repetitive peak reverse voltage | VRRM | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | VRMS | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | VDC | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum instantaneous forward voltage drop per leg at 0.4A | VF | 1 | | | | | | | V |
| Maximum average forward output rectified current @Ta=40°C | IF(AV) | 0.5 | | | | | | | A |
| Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method) | IFSM | 30 | | | | | | | A |
| Maximum DC reverse current at rated DC blocking voltage per leg | TA=25°C | 5 | | | | | | | µA |
| | TA=100°C | 500 | | | | | | | |
| Typical thermal resistance per leg | RθJA | 75 | | | | | | | °C/W |
| | RθJL | 20 | | | | | | | |
| | RθJC | 24 | | | | | | | |
| Typical diode junction capacitance @f=1MHz and applied 4V reverse voltage | CJ | 25 | | | | | | | pF |
| Operating junction and storage temperature range | TJ ;Tstg | -55 ~ +150 | | | | | | | °C |



Ordering Information

| Device | Package | Shipping |
|-----------------|---------------------------------------------------------|-----------------------|
| MBXXST05-0-T8-X | MBST (Pb-free lead plating and halogen-free package) | 750 pcs / tape & reel |



Characteristic Curves

FIG 1-TYPICAL FORWARD CURRENT DERATING CURVE

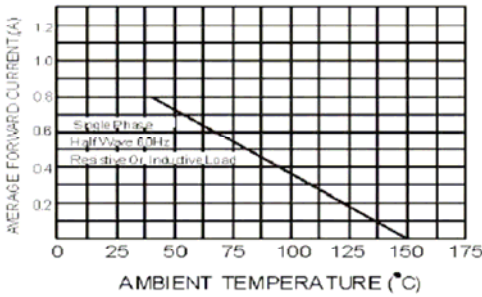


FIG 2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

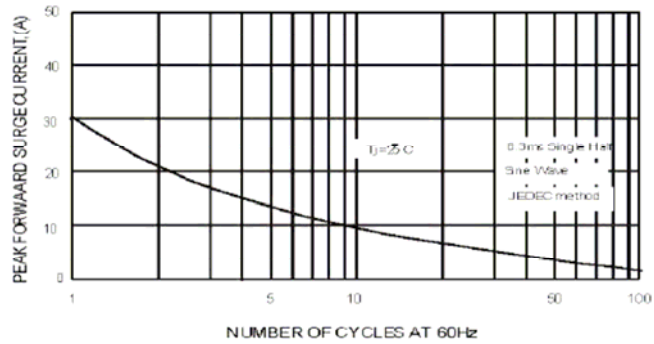


FIG.3-TYPICAL FORWARD CHARACTERISTICS

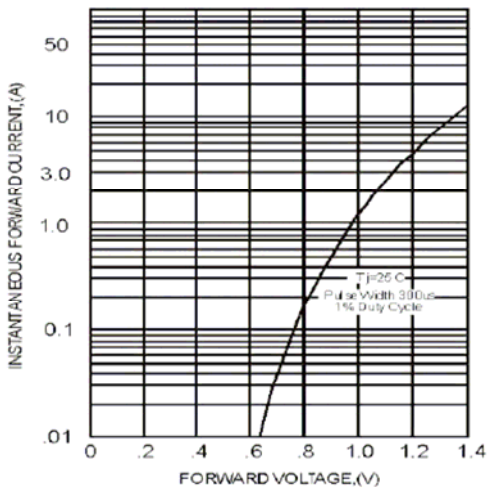
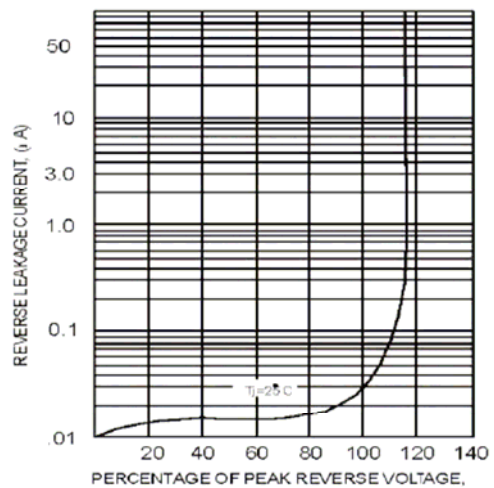
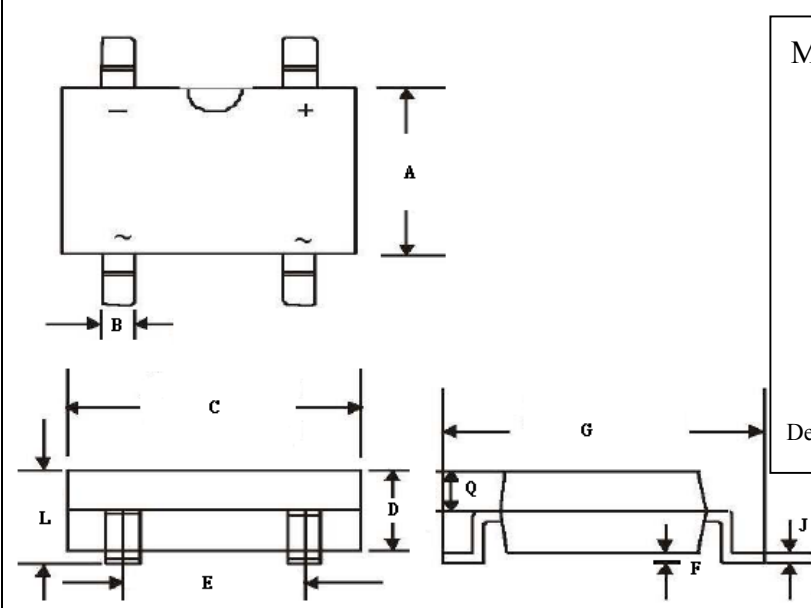


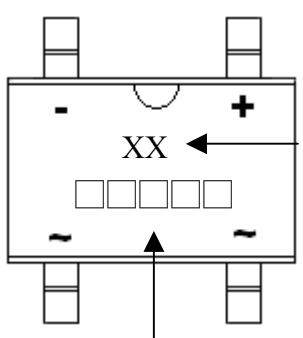
FIG.4-TYPICAL REVERSE CHARACTERISTICS



MBST Dimension



Marking :



Date Code

Device Name

MBST Plastic Surface Mounted Package
CYStek Package Code: HT

| | | | | | | | |
|---------|----------|---------|---------|---------|---------|---------|----------|
| Type | MB05ST05 | MB1ST05 | MB2ST05 | MB4ST05 | MB6ST05 | MB8ST05 | MB10ST05 |
| Marking | MB05S | MB1S | MB2S | MB4S | MB6S | MB8S | MB10S |

| DIM | Inches | | Millimeters | | DIM | Inches | | Millimeters | |
|-----|--------|-------|-------------|-------|-----|--------|-------|-------------|-------|
| | Min. | Max. | Min. | Max. | | Min. | Max. | Min. | Max. |
| A | 0.165 | 0.181 | 4.200 | 4.600 | F | - | 0.008 | - | 0.200 |
| B | 0.023 | 0.031 | 0.600 | 0.800 | G | - | 0.275 | - | 7.000 |
| C | 0.177 | 0.193 | 4.500 | 4.900 | J | 0.006 | 0.010 | 0.150 | 0.250 |
| D | 0.049 | 0.057 | 1.250 | 1.450 | L | - | 0.650 | - | 1.650 |
| E | 0.900 | 0.106 | 2.300 | 2.700 | Q | 0.024 | 0.028 | 0.600 | 0.700 |

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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