



## EF8A05 THRU EF8A60 SPECIFICATIONS

Rev. A

### 8.0A GLASS PASSIVATED EFFICIENCY FAST RECTIFIERS-50-600V

|                |               | <table><tr><th colspan="3">Value Inch[mm]</th></tr><tr><th>Dim.</th><th>Min.</th><th>Max.</th></tr><tr><td>A</td><td>0.139 [3.55]</td><td>---</td></tr><tr><td>B</td><td>0.387 [9.85]</td><td>0.419 [10.66]</td></tr><tr><td>C</td><td>0.226 [5.75]</td><td>0.269 [6.85]</td></tr><tr><td>D</td><td>0.548 [13.93]</td><td>0.624 [15.87]</td></tr><tr><td>E</td><td>0.50 [12.70]</td><td>---</td></tr><tr><td>F</td><td>---</td><td>0.177 [4.50]</td></tr><tr><td>G</td><td>0.195 [4.95]</td><td>0.204 [5.18]</td></tr><tr><td>H</td><td>0.019 [0.50]</td><td>0.038 [0.96]</td></tr><tr><td>J</td><td>0.163 [4.16]</td><td>0.196 [5.00]</td></tr><tr><td>K</td><td>0.045 [1.15]</td><td>0.054 [1.39]</td></tr><tr><td>L</td><td>---</td><td>0.025 [0.65]</td></tr></table> | Value Inch[mm] |  |  | Dim. | Min. | Max. | A | 0.139 [3.55] | --- | B | 0.387 [9.85] | 0.419 [10.66] | C | 0.226 [5.75] | 0.269 [6.85] | D | 0.548 [13.93] | 0.624 [15.87] | E | 0.50 [12.70] | --- | F | --- | 0.177 [4.50] | G | 0.195 [4.95] | 0.204 [5.18] | H | 0.019 [0.50] | 0.038 [0.96] | J | 0.163 [4.16] | 0.196 [5.00] | K | 0.045 [1.15] | 0.054 [1.39] | L | --- | 0.025 [0.65] |
|----------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|--|------|------|------|---|--------------|-----|---|--------------|---------------|---|--------------|--------------|---|---------------|---------------|---|--------------|-----|---|-----|--------------|---|--------------|--------------|---|--------------|--------------|---|--------------|--------------|---|--------------|--------------|---|-----|--------------|
| Value Inch[mm] |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| Dim.           | Min.          | Max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| A              | 0.139 [3.55]  | ---                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| B              | 0.387 [9.85]  | 0.419 [10.66]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| C              | 0.226 [5.75]  | 0.269 [6.85]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| D              | 0.548 [13.93] | 0.624 [15.87]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| E              | 0.50 [12.70]  | ---                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| F              | ---           | 0.177 [4.50]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| G              | 0.195 [4.95]  | 0.204 [5.18]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| H              | 0.019 [0.50]  | 0.038 [0.96]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| J              | 0.163 [4.16]  | 0.196 [5.00]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| K              | 0.045 [1.15]  | 0.054 [1.39]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
| L              | ---           | 0.025 [0.65]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |
|                |               | <b>PRODUCT FEATURES</b> <ol style="list-style-type: none"><li>1. FLAMMABILITY CLASSIFICATION: 94V-0</li><li>2. GLASS PASSIVATED CHIP JUNCTION</li><li>3. LOW LEAKAGE</li><li>4. LOW FORWARD VOLTAGE DROP</li><li>5. HIGH SURGE CURRENT CAPABILITY</li><li>6. CASE: JEDEC TO-220AC, MOLDED PLASTIC</li><li>7. DIMENSIONS IN INCHES AND (MILLIMETERS)</li><li>8. POLARITY: AS MARKED</li><li>9. WEIGHT: 2.05 GRAMS</li><li>10. LEADS: SOLDERABILITY PER MIL-STD-202 METHOD 208</li><li>11. RoHS, SUFFIX "-H" INDICATES HALOGEN FREE PARTS</li></ol>                                                                                                                                                                                                                         |                |  |  |      |      |      |   |              |     |   |              |               |   |              |              |   |               |               |   |              |     |   |     |              |   |              |              |   |              |              |   |              |              |   |              |              |   |     |              |

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED STORAGE AND OPERATING TEMPERATURE RANGE -55°C TO +150°C. SINGLE PHASE, HALF WAVE, 60 HZ, RESISTIVE OR INDUCTIVE LOAD. FOR CAPACITIVE LOAD, DERATE CURRENT BY 20%.

| RATINGS                                                                 | SYMBOL    | VALUE | UNITS |
|-------------------------------------------------------------------------|-----------|-------|-------|
| MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT @ 25°C                        | $I_O$     | 8     | A     |
| PEAK FWD SURGE CURRENT, 8.3ms HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD | $I_{FSM}$ | 100   | A     |
| TYPICAL JUNCTION CAPACITANCE (NOTE2)                                    | $C_J$     | 50    | pF    |
| MAXIMUM REVERSE CURRENT @ 25°C                                          | $I_R$     | 5     | uA    |
| MAXIMUM REVERSE CURRENT @ 125°C                                         | $I_R$     | 200   | uA    |
| MAXIMUM REVERSE RECOVERY TIME (NOTE1)                                   | $T_{RR}$  | 25    | nS    |

1. REVERSE RECOVERY TIME TEST CONDITION,  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
2. MEASURED @ 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
3. MAXIMUM FORWARD VOLTAGE @  $I_O$

| PART NUMBER | MAX RECURRENT PK<br>REV VOLTAGE $V_{RRM}$ (V) | MAX RMS VOLTAGE<br>$V_{RMS}$ (V) | MAX DC BLOCKING<br>VOLTAGE $V_{DC}$ (V) | MAX FWD VOLTAGE<br>$V_F$ (V) | MARKING |
|-------------|-----------------------------------------------|----------------------------------|-----------------------------------------|------------------------------|---------|
| EF8A05      | 50                                            | 35                               | 50                                      | 0.98                         | EF8A05  |
| EF8A10      | 100                                           | 70                               | 100                                     | 0.98                         | EF8A10  |
| EF8A20      | 200                                           | 140                              | 200                                     | 0.98                         | EF8A20  |
| EF8A40      | 400                                           | 280                              | 400                                     | 1.25                         | EF8A40  |
| EF8A60      | 600                                           | 420                              | 600                                     | 1.9                          | EF8A60  |



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## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

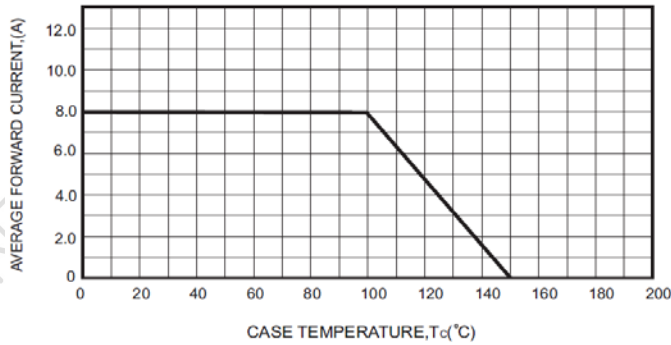


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

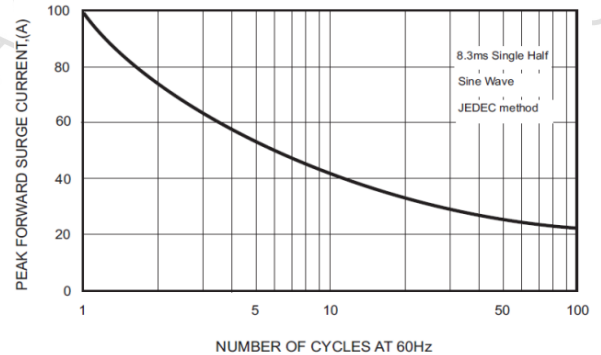


FIG.3-TYPICAL FORWARD CHARACTERISTICS

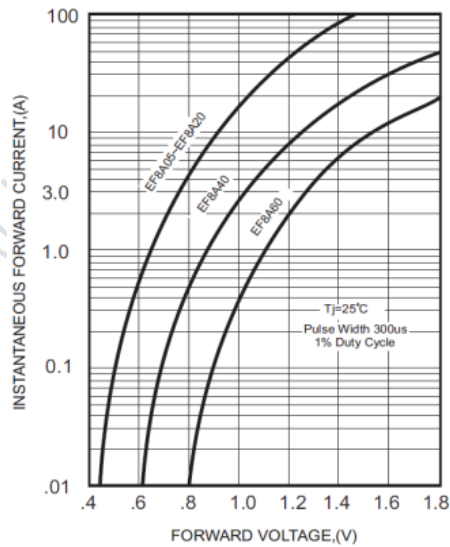


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

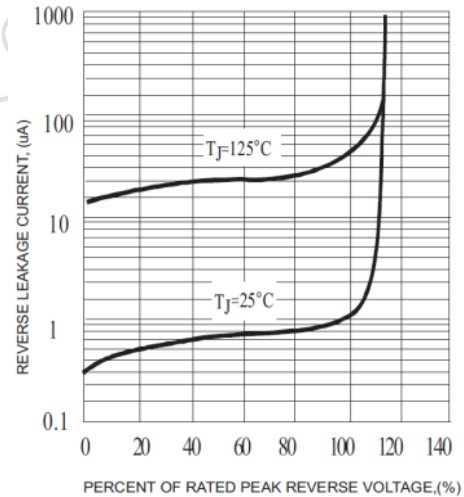
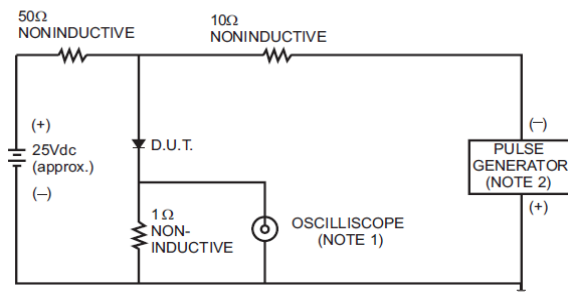


FIG.5- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

