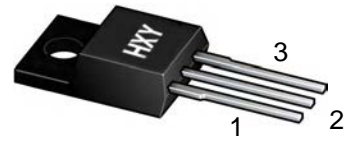




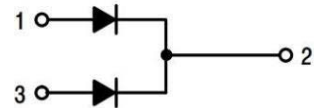
Features

- Low power loss,high efficiency.
- High surge capacity
- For use in low voltage,high frequency inverters, free wheeling,and polarity protection applications.
- Metal silicon junction,majority carrier conduction.
- High current Capability,low forward voltage drop.
- Guard ring for over voltage protection.



TO-220F

PIN CONNECTIONS



Absolute Maximum Ratings (Tc=25°C)

| Parameter | Symbol | HMBRF 1040 CT | HMBRF 1045 CT | HMBRF 1050 CT | HMBRF 1060 CT | HMBRF 1080 CT | HMBRF 1090 CT | HMBRF 10100 CT | HMBRF 10150 CT | HMBRF 10200 CT | Unit |
|--|-----------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | V |
| Maximum RMS Voltage | V _{RMS} | 28 | 31.5 | 35 | 42 | 56 | 63 | 70 | 105 | 140 | |
| Maximum DC Blocking Voltage | V _{R(DC)} | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | |
| Maximum Average Forward Current | I _{F(AV)} | 10 | | | | | | | | | A |
| Peak Forward Surge Current:8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I _{FSM} | 150 | | | | | | | | | |
| Maximum Forward Voltage at 5A per leg | V _F | 0.65 | | 0.72 | | 0.85 | | 0.95 | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | T _j =25°C | 0.1 | | | | | | | | | mA |
| | T _j =125°C | 20 | | | | | | | | | |
| Maximum Operating Junction Temperature | T _j | 150 | | | | 175 | | | | | °C |
| Storage Temperature | T _{stg} | -55~+150 | | | | -65~+175 | | | | | |
| Typical Thermal Resistance | R _{θJC} | 1.4 | | | | | | | | | °C/W |



Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

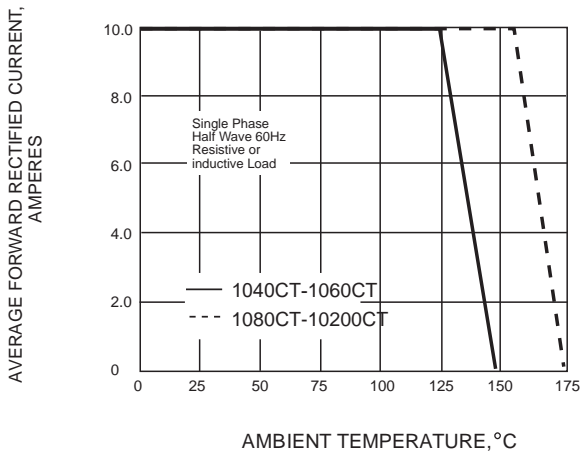


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

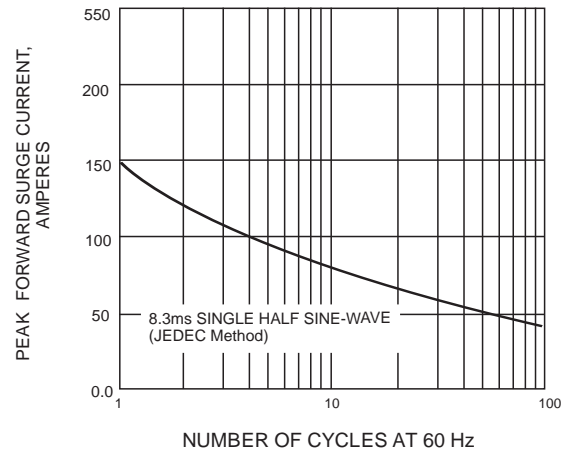


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

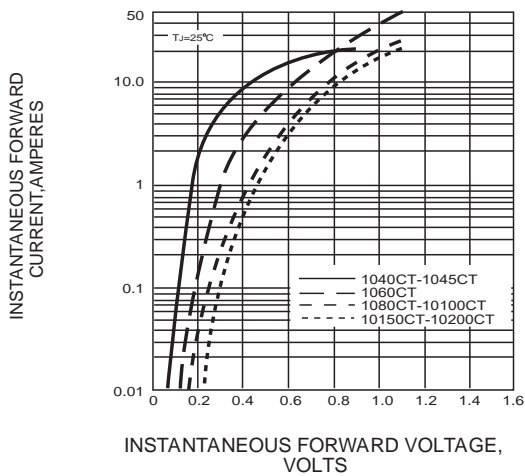
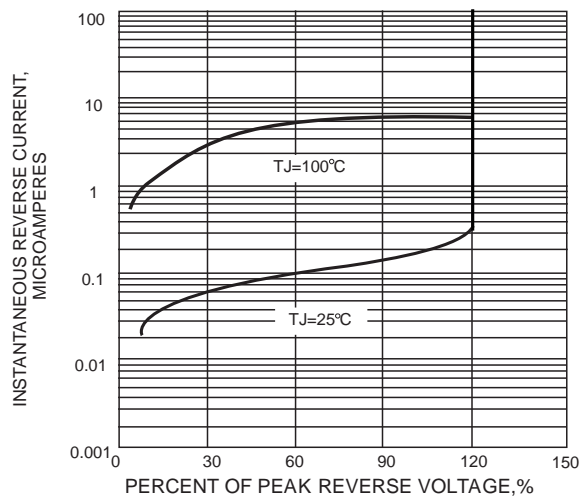
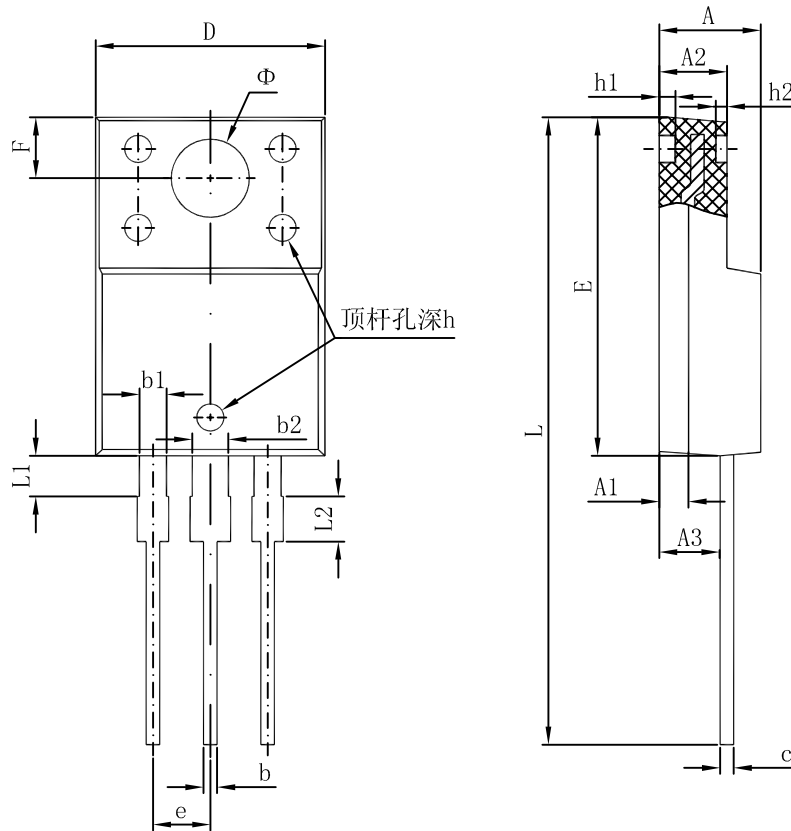


FIG. 4-TYPICAL REVERSE CHARACTERISTICS





TO-220F Package Information



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 4.300 | 4.700 | 0.169 | 0.185 |
| A1 | 1.300 REF. | | 0.051 REF. | |
| A2 | 2.800 | 3.200 | 0.110 | 0.126 |
| A3 | 2.500 | 2.900 | 0.098 | 0.114 |
| b | 0.500 | 0.750 | 0.020 | 0.030 |
| b1 | 1.100 | 1.350 | 0.043 | 0.053 |
| b2 | 1.500 | 1.750 | 0.059 | 0.069 |
| c | 0.500 | 0.750 | 0.020 | 0.030 |
| D | 9.960 | 10.360 | 0.392 | 0.408 |
| E | 14.800 | 15.200 | 0.583 | 0.598 |
| e | 2.540 TYP. | | 0.100 TYP. | |
| F | 2.700 REF. | | 0.106 REF. | |
| Φ | 3.500 REF. | | 0.138 REF. | |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| h1 | 0.800 REF. | | 0.031 REF. | |
| h2 | 0.500 REF. | | 0.020 REF. | |
| L | 28.000 | 28.400 | 1.102 | 1.118 |
| L1 | 1.700 | 1.900 | 0.067 | 0.075 |
| L2 | 1.900 | 2.100 | 0.075 | 0.083 |



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