6A05 THRU 6A10
VOLTAGE RANGE 50 to 1000 Volts CURRENT 6.0 Amperes
6.0 AMP SILICON RECTIFIERS

FEATURES
* Low forward voltage drop
* High current capability
* High reliability
* High surge current capability

MECHANICAL DATA
* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
* Polarity: Color band denotes cathode end
* Mounting position: Any
* Weight: 1.65 grams
* Both normal and Pb free product are available:
  * Normal: 80~95%Sn, 5~20%Pb
  * Pb free: 99% Sn above can meet Rohs enviroment substance directive request

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

<table>
<thead>
<tr>
<th>TYPE NUMBER</th>
<th>6A05</th>
<th>6A1</th>
<th>6A2</th>
<th>6A4</th>
<th>6A6</th>
<th>6A8</th>
<th>6A10</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Recurrent Peak Reverse Voltage</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>Maximum RMS Voltage</td>
<td>35</td>
<td>70</td>
<td>140</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC Blocking Voltage</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>Maximum Average Forward Rectified Current .375&quot; (9.5mm) Lead Length at Ta=60°C</td>
<td>6.0</td>
<td>A</td>
<td></td>
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<tr>
<td>Peak Forward Surge Current, 6.3 ms single half sine-wave superimposed on rated load (JEDEC method)</td>
<td>240</td>
<td>A</td>
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<tr>
<td>Maximum Instantaneous Forward Voltage at 6.0A</td>
<td>0.95</td>
<td>V</td>
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<tr>
<td>Maximum DC Reverse Current Ta=25°C</td>
<td>10.0</td>
<td>μA</td>
<td></td>
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<tr>
<td>at Rated DC Blocking Voltage Ta=100°C</td>
<td>400</td>
<td>μA</td>
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<tr>
<td>Typical Junction Capacitance (Note 1)</td>
<td>100</td>
<td>pF</td>
<td></td>
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<tr>
<td>Typical Thermal Resistance RΘJA (Note 2)</td>
<td>10</td>
<td>°C/W</td>
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<tr>
<td>Operating and Storage Temperature Range TJ, TSTG</td>
<td>-65 to +150</td>
<td>°C</td>
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</tbody>
</table>

NOTES:
1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance from Junction to Ambient .375" (9.5mm) lead length.
RATING AND CHARACTERISTIC CURVES (6A05 THRU 6A10)

FIG. 1 - TYPICAL FORWARD CHARACTERISTICS

INSTANTANEOUS FORWARD CURRENT (A)

FORWARD VOLTAGE (V)

Tj=25°C

Pulse Width 300us

1% Duty Cycle

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD CURRENT (A)

AMBIENT TEMPERATURE (°C)

FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

REVERSE LEAKAGE CURRENT (μA)

PERCENT OF RATED PEAK REVERSE VOLTAGE (%)

Tj=25°C

FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT (A)

NUMBER OF CYCLES AT 60Hz

Tj=25°C

8.3ms Single Half Sine Wave JEDEC method

Tj=100°C

Single Phase

Half Wave 60Hz

Resistive Or Inductive Load

0.375" (9.5mm) Lead Length

FIG. 5 - TYPICAL THERMAL RESISTANCE VS. LEAD LENGTH

THERMAL RESISTANCE (°C/W)

EQUAL LEAD LENGTH TO HEAT SINK, INCHES

Note: Specification is subject to change without further notice. For more details and updates, please visit our website.