NTE15012 & NTE15018 thru NTE15021
Integrated Circuit
TV Fixed Voltage Regulator

Features:
- Triple Diffused Darlington Transistor Chips Incorporated
- Compact Plastic Package with Industry Standard Reliability
- Output Voltage is Pre-Fixed – No External Adjustment is Required

Absolute Maximum Ratings:
Peak Input Voltage, \( V_{IN} \) ................................................................. 200V
Output Current, \( I_O \) ................................................................. 1A
Power Dissipation (\( T_C = +100^\circ C \)), \( P_D \) ................................................................. 40W
Maximum Power Transistor Junction Temperature, \( T_J \) ................................................................. +150°C
Operating Temperature Range (\( T_C \)), \( T_{opr} \) ................................................................. −30° to +125°C
Storage Temperature Range, \( T_{stg} \) ................................................................. −30° to +125°C

Note 1. NTE15021 is a discontinued device and no longer available.

Electrical Characteristics: (\( T_A = +25^\circ C \) unless otherwise specified)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Test Conditions</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Voltage</td>
<td>( V_{OUT} )</td>
<td>( V_{AC} = 100V, I_{in} = 6mA )</td>
<td>114</td>
<td>115</td>
<td>116</td>
<td>V</td>
</tr>
<tr>
<td>NTE15018</td>
<td></td>
<td>( V_{AC} = 120V, I_{in} = 7mA )</td>
<td>122</td>
<td>123</td>
<td>124</td>
<td>V</td>
</tr>
<tr>
<td>NTE15021</td>
<td></td>
<td></td>
<td>124</td>
<td>125</td>
<td>126</td>
<td>V</td>
</tr>
<tr>
<td>NTE15020</td>
<td></td>
<td></td>
<td>129</td>
<td>130</td>
<td>131</td>
<td>V</td>
</tr>
<tr>
<td>NTE15019</td>
<td></td>
<td></td>
<td>134</td>
<td>135</td>
<td>136</td>
<td>V</td>
</tr>
<tr>
<td>Load Regulation</td>
<td>( \Delta V_{LOAD} )</td>
<td>( I_O = 250mA to 500mA )</td>
<td>–</td>
<td>±1</td>
<td>–</td>
<td>V</td>
</tr>
<tr>
<td>Output Voltage Temperature Coefficient</td>
<td></td>
<td>( V_{IN} = V_{AC}, I_O = 500mA, T_C = -20^\circ \text{to} +100^\circ C )</td>
<td>–</td>
<td>7</td>
<td>–</td>
<td>mV/°C</td>
</tr>
<tr>
<td>Input–Output Saturation Voltage</td>
<td>( V_{CE(sat)} )</td>
<td>( I_C = 1A, I_B = 0 )</td>
<td>–</td>
<td>–</td>
<td>1.5</td>
<td>V</td>
</tr>
<tr>
<td>Input–Output Voltage</td>
<td>( V_{CEO} )</td>
<td>( I_{CEO} = 10mA, I_B = 0 )</td>
<td>200</td>
<td>–</td>
<td>–</td>
<td>V</td>
</tr>
<tr>
<td>DC Current Gain</td>
<td>( h_{FE} )</td>
<td>( I_C = 1A, V_{CE} = 4V )</td>
<td>1500</td>
<td>–</td>
<td>6500</td>
<td></td>
</tr>
<tr>
<td>Overload Capacity</td>
<td>( T_{S/B} )</td>
<td>( V_{CE} = 100V, I_C = 1A )</td>
<td>1.0</td>
<td>–</td>
<td>–</td>
<td>sec</td>
</tr>
<tr>
<td>Power Transistor Thermal Resistance</td>
<td>( R_{thJC} )</td>
<td>Between Junction and Stem Upper Surface</td>
<td>–</td>
<td>1.25</td>
<td>–</td>
<td>°C/W</td>
</tr>
<tr>
<td>Input–Output Cutoff Current</td>
<td>( I_{CEO} )</td>
<td>( V_{CEO} = 200V, \text{Open} ) (Between Pin1 &amp; Pin2)</td>
<td>–</td>
<td>–</td>
<td>100</td>
<td>µA</td>
</tr>
<tr>
<td>Output–Base Reverse Current Capacity</td>
<td>( I_{EB(S/B)} )</td>
<td>( t = 65\text{msec} ) (Between Emitter–Base)</td>
<td>300</td>
<td>–</td>
<td>–</td>
<td>mA</td>
</tr>
</tbody>
</table>

Note 2. Recommended Case Temperature: \( T_{opr}(T_C) = +100^\circ C \).
Pin Connection Diagram
(Front View)

1. Input/Case
2. Base
3. Common (−)
4. Output
5. No Pin

Dimensions:
- 1.410 (36.0) mm
- .960 (24.4) mm
- .236 (6.0) mm Max
- .834 (21.2) mm
- .177 (4.5) mm
- .708 (18.0) mm
- .214 (5.45) mm
- .039 (1.0) mm
- .023 (0.6) mm