

# New Jersey Semi-Conductor Products, Inc.

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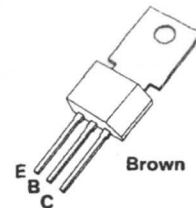
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## Silicon Power Tab Transistor



### FEATURING:

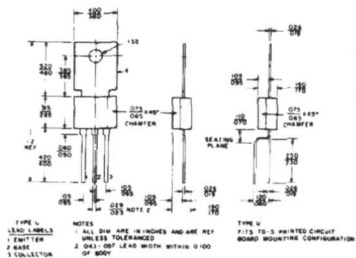
- **POWER-GLAS** Passivation
- High Free Air Power Dissipation
- Hard Solder Mountdown
- Fast Switching
- Brown for NPN



Leads can be formed to a TO-5 Pin Configuration.

absolute maximum ratings: (25°C unless otherwise specified)

|                                |                 | D40P1 | D40P3       | D40P5 |       |
|--------------------------------|-----------------|-------|-------------|-------|-------|
| <b>Voltages</b>                |                 |       |             |       |       |
| Collector to Emitter           | $V_{CE0}$       | 120   | 180         | 225   | Volts |
| Emitter to Base                | $V_{EBO}$       | 7     | 7           | 7     | Volts |
| Collector to Base              | $V_{CBO}$       | 200   | 250         | 300   | Volts |
| <b>Current</b>                 |                 |       |             |       |       |
| Collector (Continuous)         | $I_C$           |       | 0.5         |       | Amp.  |
| <b>Power Dissipation</b>       |                 |       |             |       |       |
| Tab at 25°C                    |                 |       | 6.25        |       | Watts |
| Tab at 70°C                    | $P_T$           |       | 4.0         |       | Watts |
| Free Air at 50°C               |                 |       | 1.33        |       | Watts |
| Free Air at 50°C (without tab) |                 |       | 1.0         |       | Watts |
| <b>Thermal Resistance</b>      |                 |       |             |       |       |
| Junction to Case               | $R_{\theta JC}$ |       | 20          |       | °C/W  |
| Junction to Ambient (with tab) | $R_{\theta JA}$ |       | 75          |       | °C/W  |
| (without tab)                  |                 |       | 100         |       | °C/W  |
| <b>Temperature</b>             |                 |       |             |       |       |
| Operating                      | $T_j$           |       | -55 to +150 |       | °C    |
| Storage                        | $T_{stg}$       |       | -55 to +150 |       | °C    |
| Lead Soldering, 1/16" ± 1/32"  |                 |       |             |       |       |
| From case for 10 sec. max.     | $T_L$           |       | +260        |       | °C    |



An insulating hardware kit (mica washer, nylon shoulder washer, and solder lug) is available at an additional cost upon request. Kit #138B8189P11.

### Dimensional Outlines

electrical characteristics: (25°C unless otherwise specified)

|                                                                |                | Min. | Max. | Units |
|----------------------------------------------------------------|----------------|------|------|-------|
| <b>Forward Current Transfer Ratio</b>                          |                |      |      |       |
| ( $I_C = 80$ mA, $V_{CE} = 10$ V)                              | $h_{FE}$       | 40   | —    |       |
| ( $I_C = 2$ mA, $V_{CE} = 10$ V)                               |                | 20   | —    |       |
| <b>Collector to Emitter Voltage</b>                            |                |      |      |       |
| ( $I_C = 1.0$ mA, $I_B = 0$ )                                  | $V_{CE0}$      |      |      |       |
| D40P1                                                          |                | 120  | —    | Volts |
| D40P3                                                          |                | 180  | —    | Volts |
| D40P5                                                          |                | 225  | —    | Volts |
| <b>Collector Cutoff Current</b>                                |                |      |      |       |
| (Rated $V_{CE0}$ )                                             | $I_{CBO}$      | —    | 10   | μA    |
| <b>Emitter Cutoff Current</b>                                  |                |      |      |       |
| ( $V_{EBO} = 7$ V)                                             | $I_{EBO}$      | —    | 10   | μA    |
| <b>Collector Saturation Voltage</b>                            |                |      |      |       |
| ( $I_C = 100$ mA, $I_B = 10$ mA)                               | $V_{CE} (SAT)$ | —    | 1    | Volt  |
| <b>Base Saturation Voltage</b>                                 |                |      |      |       |
| ( $I_C = 100$ mA, $I_B = 10$ mA)                               | $V_{BE} (SAT)$ | —    | 1.5  | Volt  |
| <b>Gain Bandwidth Product</b>                                  |                |      |      |       |
| ( $I_C = 80$ mA, $V_{CE} = 10$ V)                              | $f_T$          | 50   | —    | MHz   |
| <b>Storage Time</b>                                            |                |      |      |       |
| ( $I_C (ON) = 80$ mA, $I_B (ON) = 8$ mA<br>$I_B (OFF) = 8$ mA) | $t_S$          | —    | 2.5  | μsec  |
| <b>Collector Capacitance</b>                                   |                |      |      |       |
| ( $V_{CB} = 10$ V, $I_E = 0$ )                                 | $C_{CB}$       | —    | 6    | pf    |

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