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Jameco Part Number 924300

# New Jersey Semi-Conductor Products, Inc.

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|        |        |        |     |
|--------|--------|--------|-----|
| 2N6282 | 2N6283 | 2N6284 | NPN |
| 2N6285 | 2N6286 | 2N6287 | PNP |

COMPLEMENTARY SILICON DARLINGTON  
POWER TRANSISTORS

JEDEC TO-3 CASE

## MAXIMUM RATINGS ( $T_C=25^\circ\text{C}$ )

|                                            | SYMBOL         | 2N6282<br>2N6285 | 2N6283<br>2N6286 | 2N6284<br>2N6287 | UNIT               |
|--------------------------------------------|----------------|------------------|------------------|------------------|--------------------|
| Collector-Base Voltage                     | $V_{CB0}$      | 60               | 80               | 100              | V                  |
| Collector-Emitter Voltage                  | $V_{CE0}$      | 60               | 80               | 100              | V                  |
| Emitter-Base Voltage                       | $V_{EB0}$      | 5.0              | 5.0              | 5.0              | V                  |
| Collector Current                          | $I_C$          |                  | 20               |                  | A                  |
| Collector Current (Peak)                   | $I_{CM}$       |                  | 40               |                  | A                  |
| Base Current                               | $I_B$          |                  | 0.5              |                  | A                  |
| Power Dissipation                          | $P_D$          |                  | 160              |                  | W                  |
| Operating and Storage Junction Temperature | $T_J, T_{STG}$ | -65 TO +200      |                  |                  | $^\circ\text{C}$   |
| Thermal Resistance                         | $\theta_{JC}$  |                  | 1.09             |                  | $^\circ\text{C/W}$ |

## ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$ unless otherwise noted)

| SYMBOL               | TEST CONDITIONS                                                                       | 2N6282<br>2N6285 |        | 2N6283<br>2N6286 |        | 2N6284<br>2N6287 |        | UNIT |
|----------------------|---------------------------------------------------------------------------------------|------------------|--------|------------------|--------|------------------|--------|------|
|                      |                                                                                       | MIN              | MAX    | MIN              | MAX    | MIN              | MAX    |      |
| $I_{CEX}$            | $V_{CE}=\text{Rated } V_{CB0}, V_{BE}(\text{OFF})=1.5\text{V}$                        |                  | 0.5    |                  | 0.5    |                  | 0.5    | mA   |
| $I_{CEX}$            | $V_{CE}=\text{Rated } V_{CB0}, V_{BE}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C}$ |                  | 5.0    |                  | 5.0    |                  | 5.0    | mA   |
| $I_{CE0}$            | $V_{CE}=\frac{1}{2} \text{ Rated } V_{CE0}$                                           |                  | 1.0    |                  | 1.0    |                  | 1.0    | mA   |
| $I_{EB0}$            | $V_{BE}=5.0\text{V}$                                                                  |                  | 2.0    |                  | 2.0    |                  | 2.0    | mA   |
| $BV_{CE0}$           | $I_C=100\text{mA}$                                                                    | 60               |        | 80               |        | 100              |        | V    |
| $V_{CE}(\text{SAT})$ | $I_C=10\text{A}, I_B=40\text{mA}$                                                     |                  | 2.0    |                  | 2.0    |                  | 2.0    | V    |
| $V_{CE}(\text{SAT})$ | $I_C=20\text{A}, I_B=200\text{mA}$                                                    |                  | 3.0    |                  | 3.0    |                  | 3.0    | V    |
| $V_{BE}(\text{SAT})$ | $I_C=20\text{A}, I_B=200\text{mA}$                                                    |                  | 4.0    |                  | 4.0    |                  | 4.0    | V    |
| $V_{BE}(\text{ON})$  | $V_{CE}=3.0\text{V}, I_C=10\text{A}$                                                  |                  | 2.8    |                  | 2.8    |                  | 2.8    | V    |
| $h_{FE}$             | $V_{CE}=3.0\text{V}, I_C=10\text{A}$                                                  | 750              | 18,000 | 750              | 18,000 | 750              | 18,000 |      |
| $h_{FE}$             | $V_{CE}=3.0\text{V}, I_C=20\text{A}$                                                  | 100              |        | 100              |        | 100              |        |      |
| $h_{fe}$             | $V_{CE}=3.0\text{V}, I_C=10\text{A}, f=1.0\text{kHz}$                                 | 300              |        | 300              |        | 300              |        |      |
| $f_T$                | $V_{CE}=3.0\text{V}, I_C=10\text{A}, f=1.0\text{MHz}$                                 | 4.0              |        | 4.0              |        | 4.0              |        | MHz  |
| $C_{ob}$             | $V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$ (NPN types)                               |                  | 400    |                  | 400    |                  | 400    | pF   |
| $C_{ob}$             | $V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$ (PNP types)                               |                  | 600    |                  | 600    |                  | 600    | pF   |



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