

**Silicon NPN Darlingtion Power Transistor**

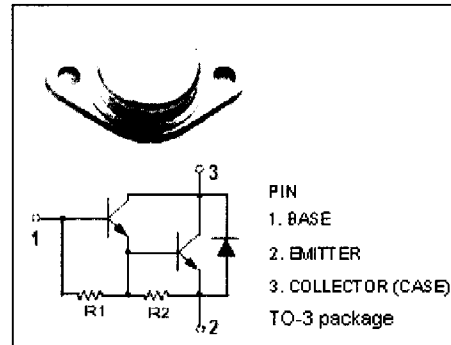
**PMD16K100**

**DESCRIPTION**

- High DC current gain
- Collector-Emitter Sustaining Voltage-  
 $V_{CEO(SUS)} = 100V(\text{Min})$
- Complement to type PMD17K100

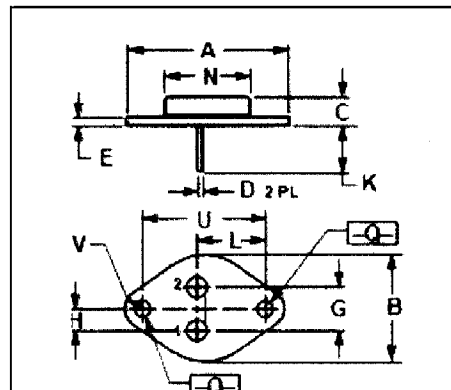
**APPLICATIONS**

- Designed for general purpose amplifier and low frequency switching applications



**ABSOLUTE MAXIMUM RATINGS( $T_c=25^\circ\text{C}$ )**

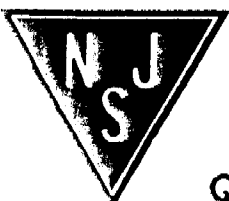
| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                              | 100     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                           | 100     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                | 5.0     | V                |
| $I_C$     | Collector Current -Continuous                       | 20      | A                |
| $I_{CP}$  | Collector Current-Peak                              | 40      | A                |
| $I_B$     | Base Current  | 0.5     | A                |
| $P_C$     | Collector Power Dissipation@ $T_c=25^\circ\text{C}$ | 200     | W                |
| $T_j$     | Junction Temperature                                | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature                                 | -65~200 | $^\circ\text{C}$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 39.00 |       |
| B   | 25.30 | 26.67 |
| C   | 7.80  | 8.30  |
| D   | 0.90  | 1.10  |
| E   | 1.40  | 1.60  |
| G   | 10.92 |       |
| H   | 5.46  |       |
| K   | 11.40 | 13.50 |
| L   | 16.75 | 17.05 |
| N   | 19.40 | 19.62 |
| Q   | 4.00  | 4.20  |
| U   | 30.00 | 30.20 |
| V   | 4.30  | 4.50  |

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                           | MAX   | UNIT               |
|---------------|-------------------------------------|-------|--------------------|
| $R_{th\ j-c}$ | ThermalResistance, Junction to Case | 0.875 | $^\circ\text{C/W}$ |



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# Silicon NPN Darlington Power Transistor

# PMD16K100

## ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS  | MIN  | MAX        | UNIT |
|---------------|--------------------------------------|---|------|------------|------|
| $V_{CE(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=100\text{mA}; I_B=0$   | 100  |            | V    |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=10\text{A}; I_B=40\text{mA}$   |      | 2.0        | V    |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C=10\text{A}; I_B=40\text{mA}$   |      | 2.8        | V    |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $I_C=10\text{A}; V_{CE}=3\text{V}$  |      | 2.8        | V    |
| $I_{CER}$     | Collector Cutoff current             | $V_{CE}=100\text{V}; R_{BE}=1\text{K}\Omega$<br>$V_{CE}=100\text{V}; R_{BE}=1\text{K}\Omega, T_C=150^\circ\text{C}$ |      | 1.0<br>5.0 | mA   |
| $I_{EBO}$     | Emitter Cut-off current              | $V_{EB}=5\text{V}; I_C=0$   |      | 2.0        | mA   |
| $h_{FE}$      | DC Current Gain                      | $I_C=10\text{A}; V_{CE}=3\text{V}$  | 1000 | 20000      |      |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C=7\text{A}; V_{CE}=3\text{V}, f=1\text{kHz}$  | 4    |            | MHz  |
| $C_{OB}$      | Output Capacitance                   | $I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$  |      | 400        | pF   |