

isc Silicon NPN Darlington Power Transistor

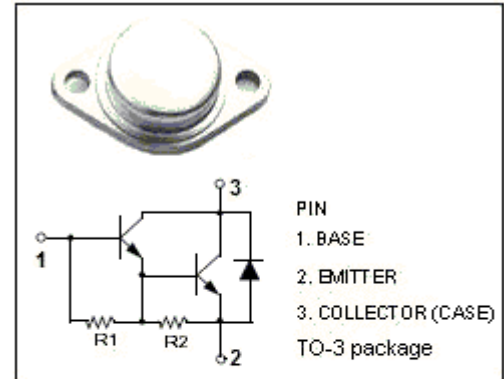
PMD10K60

DESCRIPTION

- High DC current gain
- Collector-Emitter Sustaining Voltage-
 $V_{CEO(SUS)} = 60V(\text{Min})$
- Complement to type PMD11K60

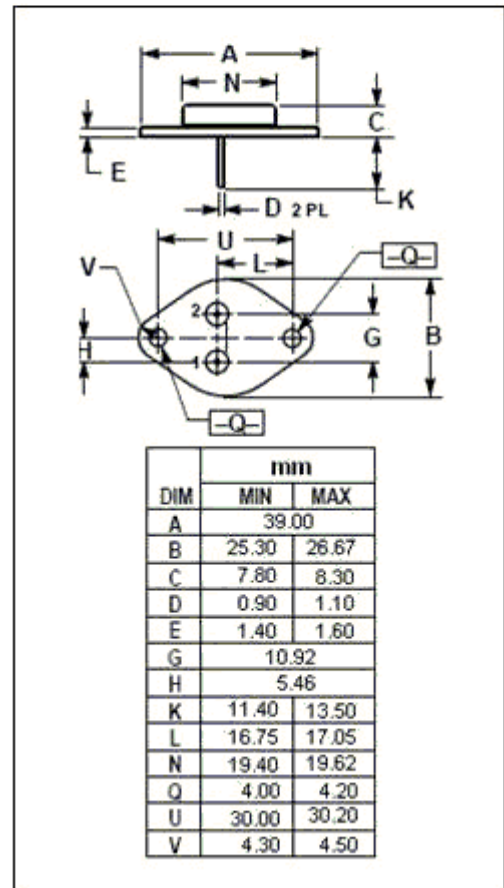
APPLICATIONS

- 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 | 60 | V |
| V_{CEO} | Collector-Emitter Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 5.0 | V |
| I_C | Collector Current -Continuous | 12 | A |
| I_{CP} | Collector Current-Peak | 20 | A |
| I_B | Base Current | 0.2 | A |
| P_C | Collector Power Dissipation@ $T_C=25^\circ\text{C}$ | 150 | W |
| T_j | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -65~200 | $^\circ\text{C}$ |



THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|-------------------------------------|------|--------------------|
| $R_{th\ j-c}$ | ThermalResistance, Junction to Case | 1.17 | $^\circ\text{C/W}$ |

isc Silicon NPN Darlington Power Transistor**PMD10K60****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---------------|--------------------------------------|---|------|------------|------|
| $V_{CE(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=100\text{mA}; I_B=0$ | 60 | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=6\text{A}; I_B=24\text{mA}$ | | 2.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=6\text{A}; I_B=24\text{mA}$ | | 2.8 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C=6\text{A}; V_{CE}=3\text{V}$ | | 2.8 | V |
| I_{CER} | Collector Cutoff current | $V_{CE}=60\text{V}; R_{BE}=1\text{K}\Omega$ $V_{CE}=60\text{V}; R_{BE}=1\text{K}\Omega, T_C=150^{\circ}\text{C}$ | | 1.0 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 | $I_C=6\text{A}; V_{CE}=3\text{V}$ | 1000 | 20000 | |
| f_T | Current-Gain—Bandwidth Product | $I_C=5\text{A}; V_{CE}=3\text{V}, f=1\text{kHz}$ | 4 | | MHz |
| C_{OB} | Output Capacitance | $I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$ | | 300 | pF |