

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

PMD1600K SERIES NPN
PMD1700K SERIES PNP

COMPLEMENTARY SILICON POWER
DARLINGTON TRANSISTOR

JEDEC TO-3 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR PMD1600K, 1700K Series types are Complementary Silicon Darlington Power Transistors manufactured by the epitaxial-base process, mounted in a hermetically sealed metal package, designed for power switching applications. These devices are designed to be electrical/mechanical equivalents Lambda part numbers.

MAXIMUM RATINGS (T_C=25°C)

| SYMBOL | PMD1601K | PMD1602K | PMD1603K | UNIT | |
|---|-----------------------------------|-------------|----------|------|------|
| | PMD1701K | PMD1702K | PMD1703K | | |
| Collector-Base Voltage | V _{CB0} | 60 | 80 | 100 | V |
| Collector-Emitter Voltage | V _{CEO} | 60 | 80 | 100 | V |
| Emitter-Base Voltage | V _{EBO} | 5.0 | 5.0 | 5.0 | V |
| Collector Current | I _C | 20 | 20 | 20 | A |
| Collector Current (PEAK) | I _{CM} | 40 | 40 | 40 | A |
| Base Current | I _B | 0.5 | 0.5 | 0.5 | A |
| Power Dissipation | P _D | 180 | 180 | 180 | W |
| Operating and Storage Junction Temperature | T _J , T _{stg} | -65 TO +200 | | | °C |
| Thermal Resistance | θ _{JC} | 0.97 | | | °C/W |

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNIT |
|----------------------|--|-----|--------|------|
| I _{CER} | V _{CE} =.67 x Rated V _{CEO} , R _{BE} =2.2KΩ | | 7.0 | mA |
| I _{EBO} | V _{EB} =5.0V | | 3.0 | mA |
| BV _{CER} | I _C =100mA, R _{BE} =2.2KΩ (PMD1601K, 1701K) | 60 | | V |
| BV _{CER} | I _C =100mA, R _{BE} =2.2KΩ (PMD1602K, 1702K) | 80 | | V |
| BV _{CER} | I _C =100mA, R _{BE} =2.2KΩ (PMD1603K, 1703K) | 100 | | V |
| BV _{CEO} | I _C =100mA (PMD1601K, 1701K) | 60 | | V |
| BV _{CEO} | I _C =100mA (PMD1602K, 1702K) | 80 | | V |
| BV _{CEO} | I _C =100mA (PMD1603K, 1703K) | 100 | | V |
| V _{CE(SAT)} | I _C =10A, I _B =40mA | | 2.0 | V |
| V _{BE(SAT)} | I _C =10A, I _B =40mA | | 2.8 | V |
| V _{BE(ON)} | V _{CE} =3.0V, I _C =10A | | 2.8 | V |
| h _{FE} | V _{CE} =3.0V, I _C =10A | 750 | 20,000 | |
| h _{fe} | V _{CE} =3.0V, I _C =7.0A, f=1.0kHz | 300 | - | |
| f _T | V _{CE} =3.0V, I _C =7.0A, f=1.0MHz | 4.0 | | MHz |
| C _{ob} | V _{CB} =10V, I _E =0, f=1.0MHz | | 400 | pF |