

isc Silicon NPN Darlington Power Transistor

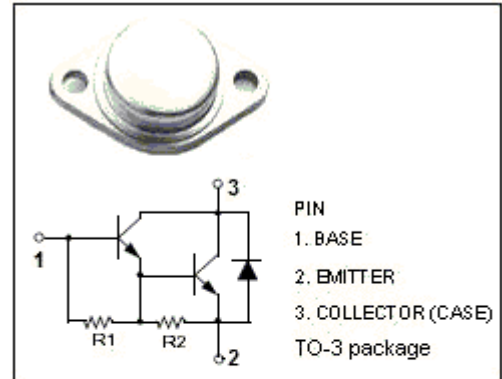
PMD1603K

DESCRIPTION

- High DC current gain
- Collector-Emitter Breakdown Voltage-
 $V_{(BR)CEO} = 100V(\text{Min})$
- Complement to type PMD1703K

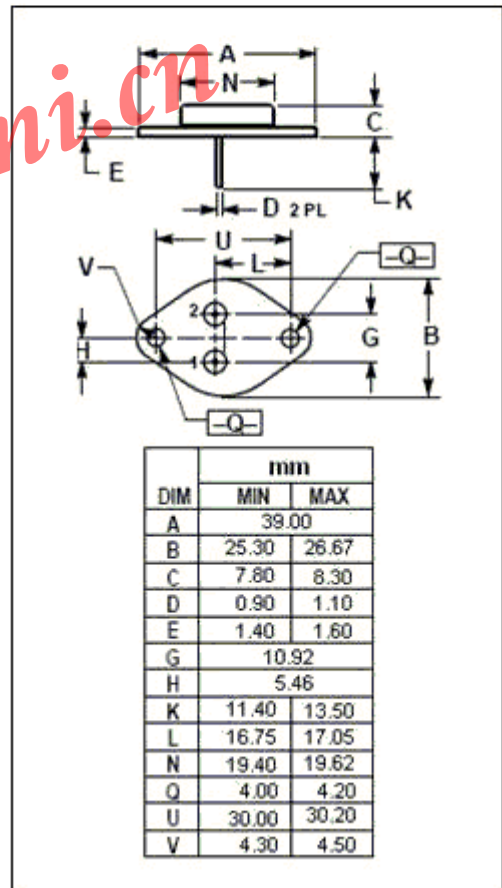
APPLICATIONS

- 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@ $T_C=25^\circ\text{C}$	180	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	0.97	$^\circ\text{C/W}$

isc Silicon NPN Darlington Power Transistor**PMD1603K****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=100\text{mA}; I_B=0$	100		V
$V_{(BR)CER}$	Collector-Emitter Breakdown Voltage	$I_C=100\text{mA}; R_{BE}=2.2\text{k}\Omega$	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	$V_{CE}=100\text{V}; R_{BE}=2.2\text{k}\Omega$		7.0	mA
I_{EBO}	Emitter Cut-off current	$V_{EB}=5\text{V}; I_C=0$		3.0	mA
h_{FE}	DC Current Gain	$I_C=10\text{A}; V_{CE}=3\text{V}$	750	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