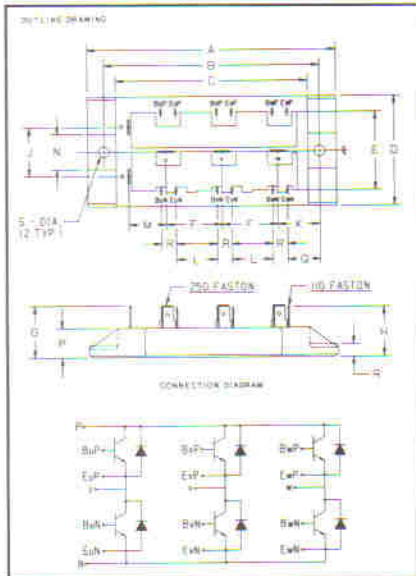


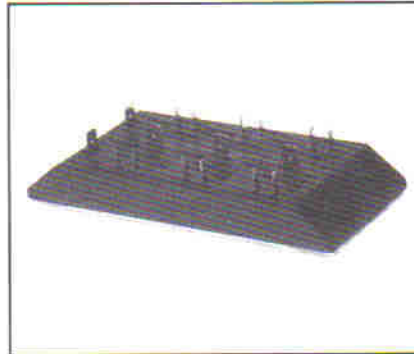
Six-Darlington Transistor Module 30 Amperes/1200 Volts



1200 Volt KE721203
Outline Drawing

Dimension	Inches	Millimeters
A	5.000	127
B	4.331 ± .012	110 ± 0.3
C	3.858	98
D	2.205	56
E	1.575	40
F	1.122	28.5
G	1.043	26.5
H	1.008	25.6
J	.984	25
K	.846	21.5
L	.827	21
M	.748	19
N	.709	18
P	.689	17.5
Q	.650	16.5
R	.295	7.5
S	.216 Dia	5.5 Dia.

Note: Each Transistor symbol represents a Triple Darlington Transistor with base emitter resistors on each stage and base emitter speed up diodes on the input stages.



KE721203
Six-Darlington
Transistor Module
30 Amperes/1200 Volts

Description

Powerex Six-Darlington Transistor Modules are designed for use in switching applications. The modules are isolated, consisting of six Darlington Transistors with each transistor having a reverse parallel connected high-speed diode and base emitter speed up diodes. The transistors are connected in a three phase bridge configuration.

Features:

- Isolated Mounting
- Planar Chips
- Discrete Fast Recovery Feed-Back Diode
- High Gain (h_{FE})
- Base Emitter Speed Up Diodes
- Base Emitter Resistors

Applications:

- Inverters
- Switching Power Supplies
- AC Motor Control

Ordering Information

Example: Select the complete eight digit module part number you desire from the table - i.e. KE721203 is a 1200 Volt, 30 Ampere Six-Darlington Module.

Type	V _{CE(SUS)} Volts (×100)	Current Rating Amperes (×10)
KE72	12	03

KE721203

Six-Darlington Transistor Module
30 Amperes/1200 Volts

Maximum Ratings $T_J = 25^\circ\text{C}$ unless otherwise specified

	Symbol	KE721203	Units
Junction Temperature	T_J	-40 to +150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 to +125	$^\circ\text{C}$
Collector-Emitter Sustaining Voltage	$V_{\text{CE(SUS)}}$	950	Volts
Collector-Emitter Sustaining Voltage $V_{\text{BE}} = -2\text{V}$	$V_{\text{CE(SUS)}}$	1200	Volts
Collector-Base Voltage	V_{CBO}	1200	Volts
Emitter-Base Voltage	V_{EBO}	7	Volts
Collector-Emitter Voltage $V_{\text{BE}} = -2\text{V}$	V_{CEV}	1200	Volts
Continuous Collector Current	I_C	30	Amperes
Diode Forward Current	I_{FM}	30	Amperes
Continuous Base Current	I_B	2	Amperes
Diode Surge Current	I_{FSM}	300	Amperes
Power Dissipation, Each Transistor	P_T	310	Watts
Max. Mounting Torque M5 Mounting Screws	—	17	in-lb
Module Weight	—	500	Grams
V isolation	V_{RMS}	2500	Volts

Electrical and Mechanical Characteristics $T_J = 25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Test Conditions	KE721203			Units
			Min.	Typ.	Max.	
Collector Cutoff Current	I_{CEV}	$V_{\text{CE}} = 1200\text{V}, V_{\text{BE}} = -2\text{V}$	—	—	1	mA
Emitter Cutoff Current	I_{EBO}	$V_{\text{EB}} = 7\text{V}$	—	—	200	mA
DC Current Gain	h_{FE}	$I_C = 30\text{A}, V_{\text{CE}} = 5\text{V}$	75	—	—	—
Diode Forward Voltage	V_{FM}	$I_{\text{FM}} = 30\text{A}$	—	—	1.8	V
Collector-Emitter Saturation Voltage	$V_{\text{CE(SAT)}}$	$I_C = 30\text{A}, I_B = 0.6\text{A}$	—	—	3.0	V
Base-Emitter Saturation Voltage	$V_{\text{BE(SAT)}}$	$I_C = 30\text{A}, I_B = 0.6\text{A}$	—	—	3.5	V
Resistive Turn On	t_{on}	$V_{\text{CC}} = 600\text{V}$	—	—	2.5	μs
Load Storage Time	t_s	$I_C = 30\text{A}$	—	—	15	μs
Switch Times Fall Time	t_f	$I_{\text{B1}} = -I_{\text{B2}} = 0.6\text{A}$	—	—	3.0	μs
Thermal Resistance, Case to Sink Lubricated	R_{thCS}	—	—	—	0.25	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	R_{thJC}	Transistor Part	—	—	0.4	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	R_{thJC}	Diode Part	—	—	1.5	$^\circ\text{C/W}$