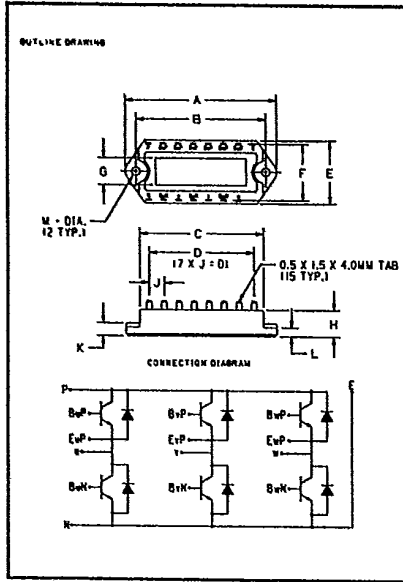




KEE225B0

Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

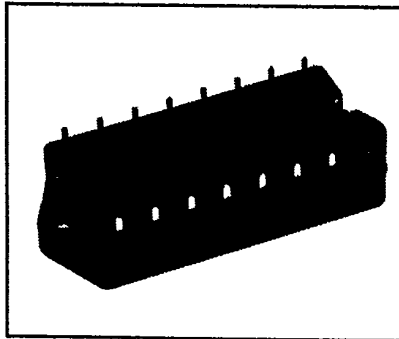
Six-Darlington Transistor Module
8 Amperes/300 Volts



300 Volt KEE225B0 Outline Drawing

Dimension	Inches	Millimeters
A	3.031	77
B	2.598 ± .006	66 ± 0.15
C	2.480	63
D	2.100	53.34
E	1.287	32.7
F	1.150	29.2
G	.551	14
H	.531	13.5
J	.300	7.62
K	.256	6.5
L	.177	4.5
M	.169 ± .004 Dia.	4.3 ± 0.1 Dia.

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



KEE225B0
Six-Darlington Module
Transistor Module
8 Amperes/300 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 a base emitter speed up diode. The transistors are connected in a three phase bridge configuration.

Features:

- Isolated Mounting
- Planar Chips
- Fast Recovery Feed-Back Diode
- High Gain (h_{FE})
- Base Emitter Speed Up Diode
- 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. KEE225B0 is a 250 V_{CEQ(SUS)} (300 V_{CEV}), 8 Ampere Six-Darlington Module.

Type	V _{CEQ(SUS)} Volts (x10)	Current Rating Amperes (8)
KEE2	25	B0



Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

KEE225B0
Six-Darlington Transistor Module
8 Amperes/300 Volts

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

	Symbol	KEE225B0	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	$V_{CEQ(SUS)}$	250	Volts
Collector-Emitter Sustaining Voltage $V_{BE} = -2\text{V}$	$V_{CEV(SUS)}$	300	Volts
Collector-Base Voltage	V_{CBO}	300	Volts
Emitter-Base Voltage	V_{EBO}	7	Volts
Collector-Emitter Voltage $V_{BE} = -2\text{V}$	V_{CEV}	300	Volts
Continuous Collector Current	I_C	8	Amperes
Diode Forward Current	I_{FM}	8	Amperes
Continuous Base Current	I_B	2	Amperes
Diode Surge Current	I_{FSM}	80	Amperes
Power Dissipation, Each Transistor	P_T	62.5	Watts
Max. Mounting Torque M4 Mounting Screws	—	12	in.-lb.
Module Weight	—	50	Grams
V isolation	V_{RMS}	2000	Volts

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

Characteristics	Symbol	Test Conditions	Min.	KEE225B0 Typ.	Max.	Units
Collector Cutoff Current	I_{CEV}	$V_{CE} = 300\text{V}, V_{BE} = -2\text{V}$	—	—	1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 7\text{V}$	—	—	200	mA
DC Current Gain	h_{FE}	$I_C = 7.5\text{A}, V_{CE} = 2\text{V}$	250	—	—	—
Diode Forward Voltage	V_{FM}	$I_{FM} = 7.5\text{A}$	—	—	1.4	V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 7.5\text{A}, I_B = 0.03\text{A}$	—	—	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 7.5\text{A}, I_B = 0.03\text{A}$	—	—	2.2	V
Resistive Turn On	t_{on}	$V_{CC} = 150\text{V}$	—	.32	0.6	μs
Load Storage Time	t_s	$I_C = 7.5\text{A}$	—	1.3	3.0	μs
Switch Times Fall Time	t_f	$I_{B1} = 0.08, -I_{B2} = 0.5\text{A}$	—	.52	1.0	μs
Diode Reverse Recovery	t_{rr}	$V_{CC} = 150\text{V}, I_F = 7.5\text{A}$ $I_{B1} = 0.8\text{A}, I_{B1} = 1.5\text{A (peak)}$ $-I_{B2} = 0.5\text{A}$	—	.3	.5	μs
Thermal Resistance, Case to Sink Lubricated	$R_{\theta CS}$	—	—	—	0.6	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Transistor Part	—	—	2.0	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Diode Part	—	—	3.0	$^\circ\text{C/W}$