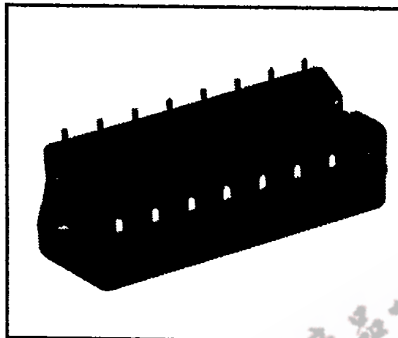
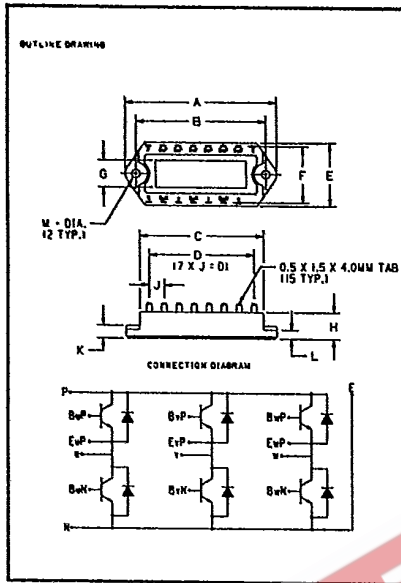




Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

**KEE225B0**

**Six-Darlington Transistor Module  
8 Amperes/300 Volts**



**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  $V_{CE0(SUS)}$  (300  $V_{CEV}$ ), 8 Ampere Six-Darlington Module.

**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.

Type	$V_{CE0(SUS)}$ Volts (×10)	Current Rating Amperes (8)
KEE2	25	8

# POWEREX

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	$V_{CE(SUS)}$	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	KEE225B0			Units
			Min.	Typ.	Max.	
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	$\mu\text{s}$
Load Storage Time	$t_s$	$I_C = 7.5\text{A}$	—	1.3	3.0	$\mu\text{s}$
Switch Times Fall Time	$t_f$	$I_{B1} = 0.08, -I_{B2} = 0.5\text{A}$	—	.52	1.0	$\mu\text{s}$
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	$\mu\text{s}$
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	$^\circ\text{C/W}$