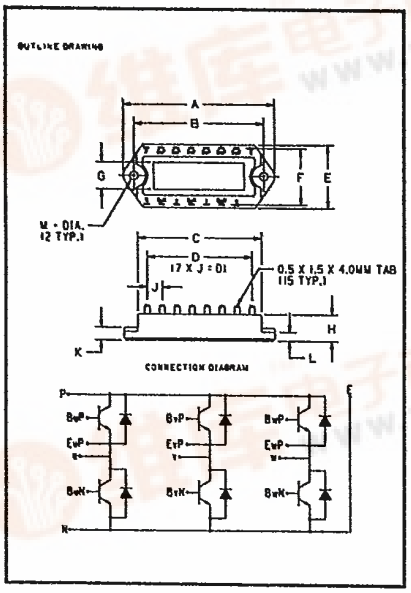
Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

KEE225B0

Six- Darlington Transistor Module

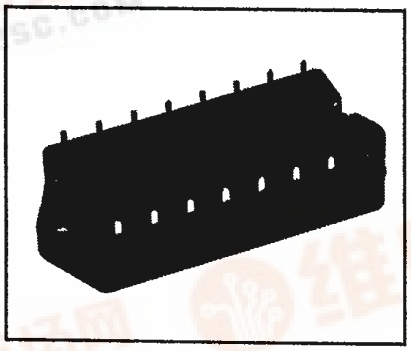
8 Amperes/300 Volts



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

Type	$V_{CEO(SUS)}$ Volts (×10)	Current Rating Amperes (8)
KEE2	25	B0

POWEREX

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KEE225B0
Six-Darlington Transistor Module
8 Amperes/300 Volts

Maximum Ratings T_J=25°C unless otherwise specified

	Symbol	KEE225B0	Units
Junction Temperature	T_J	−40 to 150	°C
Storage Temperature	T_{STG}	−40 to 125	°C
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	250	Volts
Collector-Emitter Sustaining Voltage V_{BE} = −2V	$V_{CEV(SUS)}$	300	Volts
Collector-Base Voltage	V_{CBO}	300	Volts
Emitter-Base Voltage	V_{EBO}	7	Volts
Collector-Emitter Voltage V_{BE} = −2V	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°C unless otherwise specified

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