

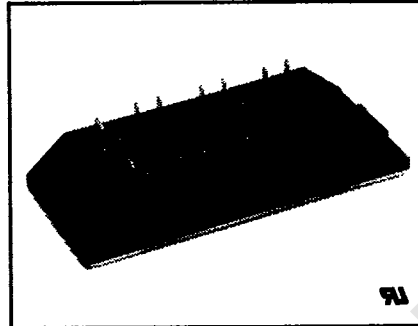
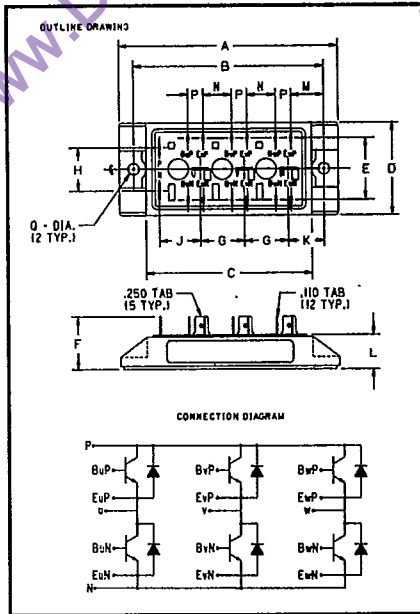


KE721KA1HB

T-33-35

Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272
 Powerex Europe, S.A., 428 Avenue G, Durand, BP107, 72003 Le Mans, France (43) 41.14.14

**High-Beta
 Six-Darlington
 Transistor Module
 15 Amperes/1000 Volts**



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Description

Powerex High-Beta 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. The transistors are connected in a three phase bridge configuration.

Features:

- Isolated Mounting
- Planar Chips
- Discrete Fast Recovery Feed-Back Diode
- Very High Gain (h_{FE})
- Quick Connect Terminals
- Base Emitter Speed Up Diode
- UL Recognized

Applications:

- Inverters
- DC Motor Control
- Switching Power Supplies
- AC Motor Control

Ordering Information

Example: Select the complete ten digit module part number you desire from the table - i.e. KE721KA1HB is an 850 $V_{CE(SUS)}$, (1000 V_{CEV}), 15 Ampere High-Beta Six-Darlington Module with a gain of 250 at rated current (15 Amperes).

**1000 Volts KE721KA1HB
 Outline Drawing**

Dimension	Inches	Millimeters
A	4.21	107
B	3.661 ± .012	93 ± 0.3
C	3.19	81
D	1.77	45
E	1.18	30
F	1.02	26
G	.85	21.5
H	.83	21
J	.79	20
K	.69	17.5
L	.669 ± .020	17 ± 0.5
M	.63	16
N	.55	14
P	.30	7.5
Q	.216 Dia.	5.5 Dia.

Type	$V_{CE(SUS)}$ Volts (1000)	Current Rating Amperes (15)	High Beta
KE72	1K	A1	HB



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Absolute Maximum Ratings

	Symbol	KE721KA1HB	Units
Junction Temperature	T_J	-40 to 150	°C
Storage Temperature	T_{STG}	-40 to 125	°C
Collector-Emitter Sustaining Voltage	$V_{CE(SUS)}$	850	Volts
Collector-Emitter Sustaining Voltage $V_{BE} = -2V$	$V_{CEV(SUS)}$	1000	Volts
Collector-Base Voltage	V_{CBO}	1000	Volts
Emitter-Base Voltage	V_{EBO}	7	Volts
Collector-Emitter Voltage $V_{BE} = -2V$	V_{CEV}	1000	Volts
Continuous Collector Current	I_C	15	Amperes
Diode Forward Current	I_{FM}	15	Amperes
Continuous Base Current	I_B	1	Amperes
Diode Surge Current	I_{FSM}	150	Amperes
Power Dissipation	P_T	150	Watts
Maximum Mounting Torque M5 Mounting Screws	—	17	in.-lb.
Module Weight (Typical)	—	230	Grams
V Isolation	V_{RMS}	2500	Volts

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

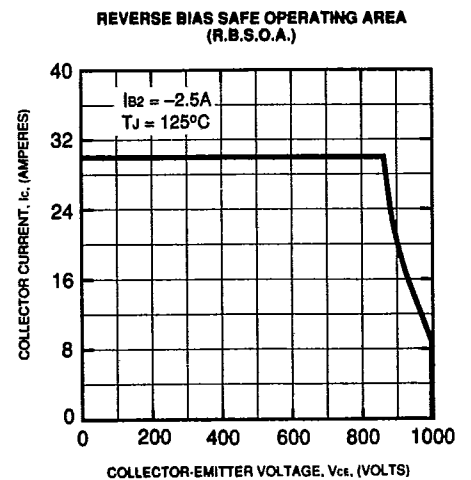
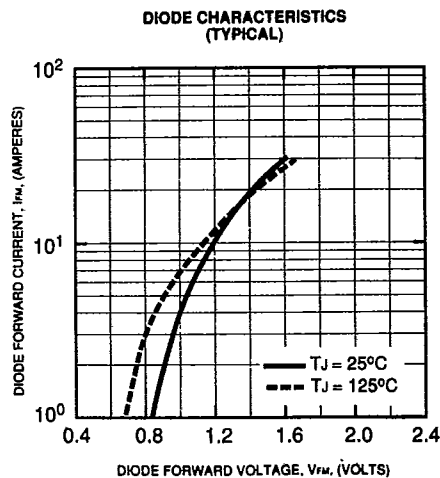
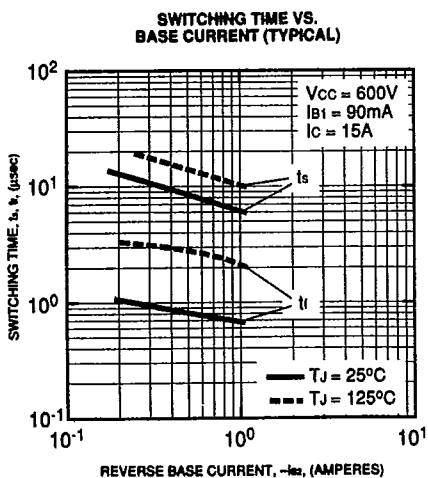
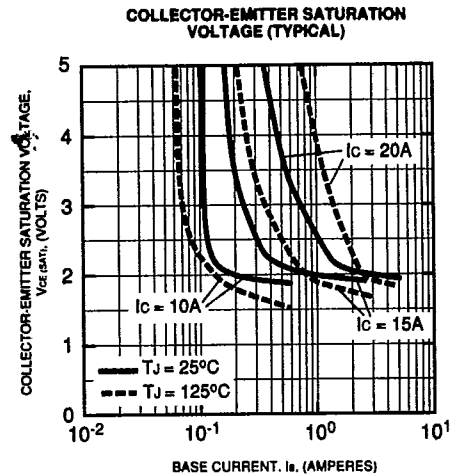
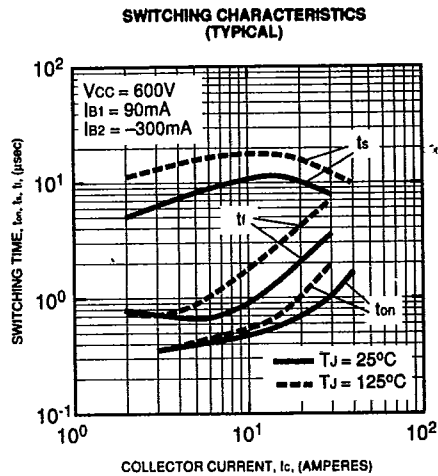
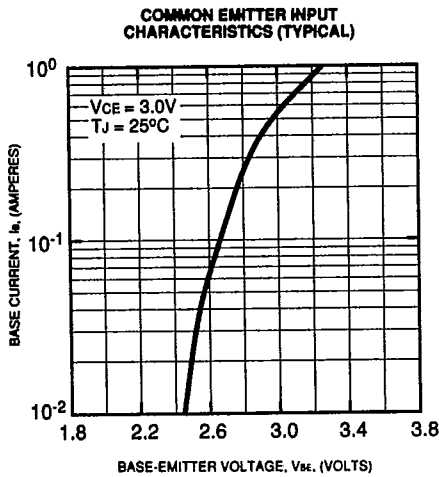
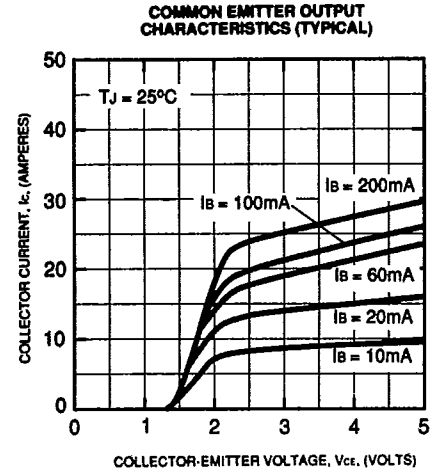
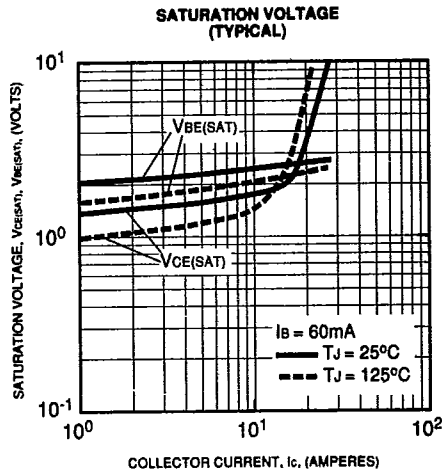
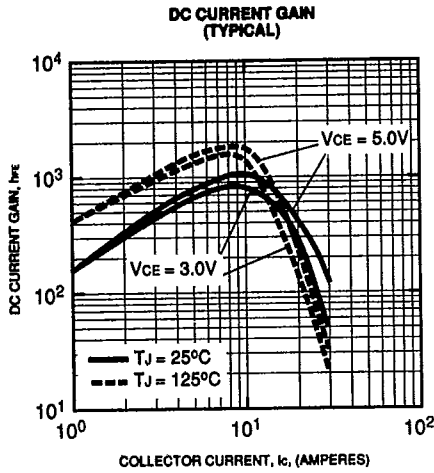
Characteristics	Symbol	Test Conditions	KE721KA1HB			Units
			Min.	Typ.	Max.	
Collector Cutoff Current	I_{CEV}	$V_{CE} = 1000V, V_{BE} = -2V$	—	—	1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 7V$	—	—	50	mA
DC Current Gain	h_{FE}	$I_C = 15A, V_{CE} = 3.0V$	250	—	—	—
Diode Forward Voltage	V_{FM}	$I_{FM} = 15A$	—	—	1.8	Volts
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 15A, I_B = 60mA$	—	—	3.0	Volts
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 15A, I_B = 60mA$	—	—	3.5	Volts
Resistive Load	Turn-on	$V_{CC} = 600V$	—	—	2.0	μs
	Storage Time					
Switch Times	Fall Time	$I_{B1} = .09A, I_{B2} = -0.3A$	—	—	3.0	μs
Thermal Resistance, Case to Sink Lubricated	$R_{\theta CS}$	Per 1/6 Module	—	—	0.35	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Transistor Part	—	—	0.8	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Diode Part	—	—	2.0	°C/W



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