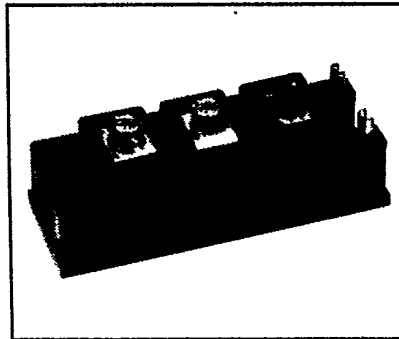
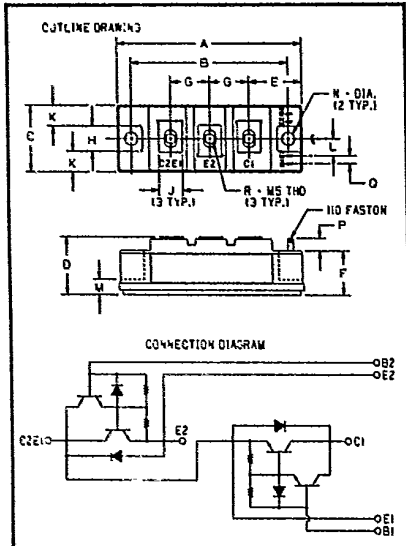




**KD221A10 Tentative**

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

**Fast Switching  
Dual Darlington  
Transistor Module  
100 Amperes/125 Volts**



**KD221A10  
Fast Switching Dual Darlington  
Transistor Module  
100 Amperes/125 Volts**

**Description**

Powerex Fast Switching Dual Darlington Transistor Modules are designed for use in Low Voltage switching applications. The modules are isolated for easy mounting of multiple units.

**Features:**

- Isolated Mounting
- Planar Chips
- Low  $V_{CE(SAT)}$
- Fast Switching

**Applications:**

- 20 Kiloherzt Inverters
- AC & DC Motor Control
- Switching Power Supplies

**Ordering Information**

Example: Select the complete eight digit module part number for the rating you desire from the table - i.e. KD221A10 is a 125 Volt, 100 Ampere Fast Switching Dual Darlington Module.

**125 Volt KD221A10  
Outline Drawing**

Dimension	Inches	Millimeters
A	3.701 Max.	94 Max.
B	3.150 ± .010	80 ± 0.25
C	1.339 Max.	34 Max.
D	1.181 Max.	30 Max.
E	1.063	27
F	.906	23
G	.787	20
H	.512	13
J	.472	12
K	.413	10.5
L	.344	8.75
M	.315	8
N	.256 Dia.	6.5 Dia.
P	.256 Min.	6.5 Min.
Q	.157	4
R	M5 Metric	M5

Type	$V_{CE0(SUS)}$ Volts (125)	Current Rating Amperes (x10)
KD22	1A	10



Tentative

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**KD221A10**  
**Fast Switching Dual Darlington Transistor Module**  
**100 Amperes/125 Volts**

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

	Symbol	KD221A10	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	$V_{CE(SUS)}$	125	Volts
Collector-Base Voltage	$V_{CBO}$	150	Volts
Emitter-Base Voltage	$V_{EBO}$	7	Volts
Collector-Emitter Voltage $V_{BE} = -2\text{V}$	$V_{CEV}$	150	Volts
Continuous Collector Current	$I_C$	100	Amperes
Diode Forward Current	$I_{FM}$	100	Amperes
Continuous Base Current	$I_B$	10	Amperes
Diode Surge Current	$I_{FSM}$	1000	Amperes
Power Dissipation	$P_T$	400	Watts
Max. Mounting Torque M5 Terminal Screws	—	17	in.-lb.
Max. Mounting Torque M6 Mounting Screws	—	26	in.-lb.
Module Weight	—	210	Grams
V isolation	$V_{RMS}$	1500	Volts

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

Characteristics	Symbol	Test Conditions	Min.	KD221A10 Typ.	Max.	Units
Collector Cutoff Current	$I_{CEV}$	$V_{CE} = 150\text{V}, V_{BE} = -2\text{V}$	—	—	1	mA
Collector Cutoff Current	$I_{CEV}$	$V_{CE} = 150\text{V}, V_{BE} = -2\text{V}$ $T_C = 125^\circ\text{C}$	—	—	3	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 7\text{V}$	—	—	100	mA
DC Current Gain	$h_{FE}$	$I_C = 100\text{A}, V_{CE} = 2.0\text{V}$	200	—	—	—
Diode Forward Voltage	$V_{FM}$	$I_{FM} = 100\text{A}$	—	—	1.60	V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 100\text{A}, I_B = 1.0\text{A}$	—	—	1.25	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 100\text{A}, I_B = 1.0\text{A}$	—	—	2.0	V
Resistive Turn On	$t_{on}$	$V_{CC} = 75\text{V}$	—	—	2.0	$\mu\text{s}$
Load Storage Time	$t_s$	$I_C = 100\text{A}$	—	—	4.0	$\mu\text{s}$
Switch Times Fall Time	$t_f$	$I_{B1} = -I_{B2} = 1.0\text{A}$	—	—	2.0	$\mu\text{s}$
Thermal Resistance, Junction to Sink Lubricated	$R_{\theta CS}$	Per Half Module	—	—	0.15	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Transistor Part	—	—	.31	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Diode Part	—	—	.8	$^\circ\text{C/W}$

This specification is tentative;  
 therefore, performance curves are not  
 included. Please contact the Powerex  
 sales representative nearest you for  
 further information.