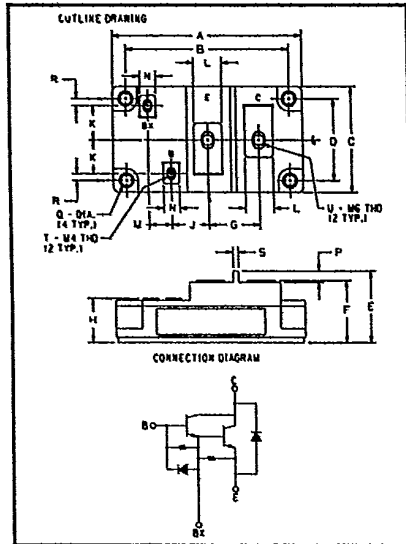




**KS621A40 Tentative**

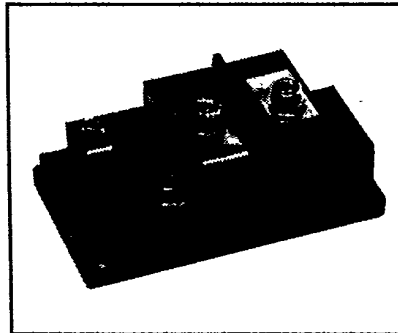
Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272

**Fast Switching  
Single Darlington  
Transistor Module  
400 Amperes/125 Volts**



**125 Volt KS621A40  
Outline Drawing**

Dimension	Inches	Millimeters
A	4.252 Max.	108 Max.
B	3.661 ± .012	93 ± 0.3
C	2.441 Max.	62 Max.
D	1.890 ± .012	48 ± 0.3
E	1.634 Max.	41.5 Max.
F	1.417 Max.	36 Max.
G	1.142	29
H	1.004	25.5 Max.
J	.827	21
K	.787	20
L	.630	16
M	.512	13
N	.354	9
P	.256	6.5
Q	.256 Dia.	6.5 Dia.
R	.157	4
S	.118	3
T	M4 Metric	M4
U	M6 Metric	M6



**KS621A40  
Fast Switching Single Darlington  
Transistor Module  
400 Amperes/125 Volts**

**Description**

Powerex Fast Switching Single 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 KiloHertz 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. KS621A40 is a 125 Volt, 400 Ampere Fast Switching Single Darlington Module.

Type	$V_{CE(SUS)}$ Volts (125)	Current Rating Amperes (x10)
KS62	1A	40



Tentative

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**KS621A40**  
**Fast Switching Single Darlington Transistor Module**  
**400 Amperes/125 Volts**

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

	Symbol	KS621A40	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	$V_{CB0}$	150	Volts
Emitter-Base Voltage	$V_{EB0}$	7	Volts
Collector-Emitter Voltage $V_{BE} = -2V$	$V_{CEV}$	150	Volts
Continuous Collector Current	$I_C$	400	Amperes
Diode Forward Current	$I_{FM}$	400	Amperes
Continuous Base Current	$I_B$	10	Amperes
Diode Surge Current	$I_{FSM}$	4000	Amperes
Power Dissipation	$P_T$	1980	Watts
Max. Mounting Torque (M6) Terminal Screws	—	26	in.-lb.
Max. Mounting Torque (M6) Mounting Screws	—	26	in.-lb.
Max. Mounting Torque (M4) Terminal Screws, B, Bx	—	12	in.-lb.
Module Weight	—	460	Grams
V isolation	$V_{RMS}$	1500	Volts

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

Characteristics	Symbol	Test Conditions	KS621A40			Units
			Min.	Typ.	Max.	
Collector Cutoff Current	$I_{CEV}$	$V_{CE} = 150V, V_{BE} = -2V$	—	—	1	mA
Collector Cutoff Current	$I_{CEV}$	$V_{CE} = 150V, V_{BE} = -2V$ $T_C = 125^\circ\text{C}$	—	—	3	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 7V$	—	—	200	mA
DC Current Gain	$h_{FE}$	$I_C = 400A, V_{CE} = 2.0V$	300	—	—	—
Diode Forward Voltage	$V_{FM}$	$I_{FM} = 400A$	—	—	1.60	V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 400A, I_B = 2.0A$	—	—	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 400A, I_B = 2.0A$	—	—	2.0	V
Resistive Turn On	$t_{on}$	$V_{CC} = 75V$	—	—	2.0	$\mu\text{s}$
Load Storage Time	$t_s$	$I_C = 400A$	—	—	4.0	$\mu\text{s}$
Switch Times Fall Time	$t_f$	$I_{B1} = -I_{B2} = 2.0A$	—	—	2.0	$\mu\text{s}$
Thermal Resistance, Junction to Sink Lubricated	$R_{\theta CS}$	—	—	—	0.04	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Transistor Part	—	—	0.063	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Diode Part	—	—	0.3	$^\circ\text{C/W}$

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