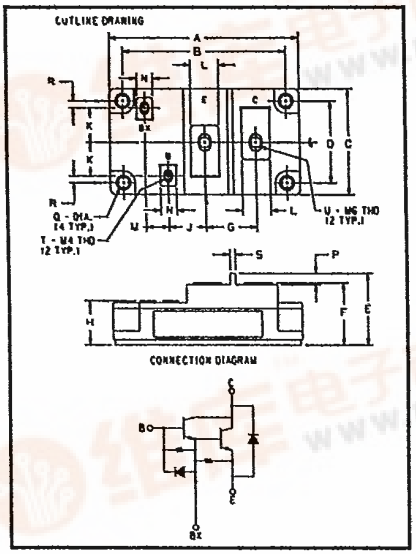
POWEREX

KS621A40 Tentative

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

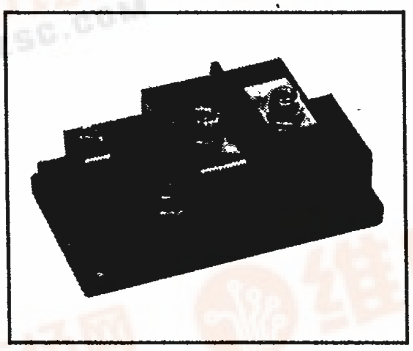
Fast Switching Single Darlington Transistor Module

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



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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	$V_{CEO(SUS)}$ Volts (125)	Current Rating Amperes (×10)
KS62	1A	40

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400 Amperes/125 Volts

Maximum Ratings T_J=25°C unless otherwise specified

	Symbol	KS621A40	Units
Junction Temperature	T_J	−40 to 150	°C
Storage Temperature	T_{STG}	−40 to 125	°C
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	125	Volts
Collector-Base Voltage	V_{CBO}	150	Volts
Emitter-Base Voltage	V_{EBO}	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°C unless otherwise specified

Characteristics		Symbol	Test Conditions	KS621A40 Min.	Typ.	Max.	Units
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°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 Load Switch Times	Turn On	t_{on}	V_{CC}=75V	—	—	2.0	μs
	Storage Time	t_s	I_C=400A	—	—	4.0	μs
	Fall Time	t_f	I_{B1}=−I_{B2}=2.0A	—	—	2.0	μs
Thermal Resistance, Junction to Sink Lubricated		$R_{\theta CS}$	—	—	—	0.04	°C/W
Thermal Resistance, Junction to Case		$R_{\theta JC}$	Transistor Part	—	—	0.063	°C/W
Thermal Resistance, Junction to Case		$R_{\theta JC}$	Diode Part	—	—	0.3	°C/W

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