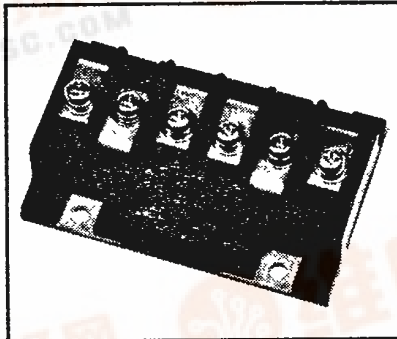
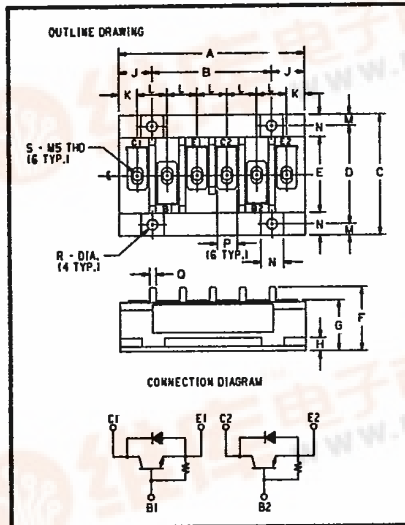




KT234520

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

Split-Dual Bipolar Transistor Module
200 Amperes/600 Volts



KT234520
Split-Dual Bipolar Transistor Module
200 Amperes/600 Volts

Description

Powerex Split-Dual Bipolar Transistor Modules are designed for use in switching applications. The modules are isolated consisting of two Bipolar Transistors with each transistor having a reverse parallel connected high-speed diode.

Features:

- Isolated Mounting
- Planar Chips
- Discrete Fast Recovery Feed-Back Diode
- Low $V_{CE(SAT)}$
- Fast Switching

Applications:

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

Ordering Information

Example: Select the complete eight digit module part number you desire from the table - i.e. KT234520 is a 450 $V_{CE(SUS)}$ (600 V_{CEV}), 200 Ampere Split-Dual Bipolar Module.

600 Volt KT234520
Outline Drawing

Dimension	Inches	Millimeters
A	3.858 ± .016	98 ± 0.4
B	2.48 ± .012	63 ± 0.3
C	2.52 ± .016	64 ± 0.4
D	2.047 ± .012	52 ± 0.3
E	1.575 ± .012	40 ± 0.3
F	1.339 Max.	34 Max.
G	1.063 + .02/ - .00	27 + 0.5/ - 0.0
H	.276	7
J	.689	17.5
K	.374	9.5
L	.622	15.8
M	.236	6
N	.472	12
P	.413 ± .008	10.5 ± 0.2
Q	.134	3.4
R	.216 ± .006 Dia.	5.5 ± 0.15 Dia.
S	M5 Metric	M5

Type	$V_{CE(SUS)}$ Volts (x10)	Current Rating Amperes (x10)
KT23	45	20





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

	Symbol	KT234520	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	$V_{\text{CEO(SUS)}}$	450	Volts
Collector-Emitter Sustaining Voltage $V_{\text{BE}} = -2\text{V}$	$V_{\text{CEV(SUS)}}$	600	Volts
Collector-Base Voltage	V_{CBO}	600	Volts
Emitter-Base Voltage	V_{EBO}	7	Volts
Collector-Emitter Voltage $V_{\text{BE}} = -2\text{V}$	V_{CEV}	600	Volts
Continuous Collector Current	I_{C}	200	Amperes
Diode Forward Current	I_{FM}	30	Amperes
Continuous Base Current	I_{B}	30	Amperes
Diode Surge Current	I_{FSM}	300	Amperes
Power Dissipation	P_{T}	830	Watts
Max. Mounting Torque M5 Terminal Screws	—	17	in-lb
Max. Mounting Torque M5 Mounting Screws	—	17	in-lb
Module Weight	—	420	Grams
V isolation	V_{RMS}	2500	Volts

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

Characteristics	Symbol	Test Conditions	KT234520			Units
			Min.	Typ.	Max.	
Collector Cutoff Current	I_{CEV}	$V_{\text{CE}} = 600\text{V}, V_{\text{BE}} = -2\text{V}$	—	—	2	mA
Emitter Cutoff Current	I_{EBO}	$V_{\text{EB}} = 7\text{V}$	—	—	300	mA
DC Current Gain	h_{FE}	$I_{\text{C}} = 200\text{A}, V_{\text{CE}} = 2\text{V}$	10	—	—	—
Diode Forward Voltage	V_{FM}	$I_{\text{FM}} = 30\text{A}$	—	—	1.8	V
Collector-Emitter Saturation Voltage	$V_{\text{CE(SAT)}}$	$I_{\text{C}} = 200\text{A}, I_{\text{B}} = 20\text{A}$	—	—	2.0	V
Base-Emitter Saturation Voltage	$V_{\text{BE(SAT)}}$	$I_{\text{C}} = 200\text{A}, I_{\text{B}} = 20\text{A}$	—	—	2.2	V
Resistive Load	Turn On	$V_{\text{CC}} = 300\text{V}$	—	—	2.5	μs
	Storage Time	$I_{\text{C}} = 200\text{A}$	—	—	7	μs
Switch Times	Fall Time	$I_{\text{B1}} = -I_{\text{B2}} = 20\text{A}$	—	—	1.0	μs
Thermal Resistance, Case to Sink Lubricated	$R_{\theta\text{CS}}$	Per Half Module	—	—	0.1	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta\text{JC}}$	Transistor Part	—	—	0.15	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta\text{JC}}$	Diode Part	—	—	0.6	$^\circ\text{C/W}$