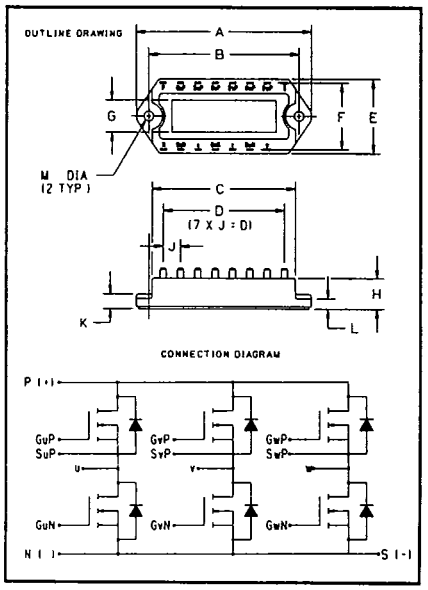
JEE245B0
JEE250B0 Tentative

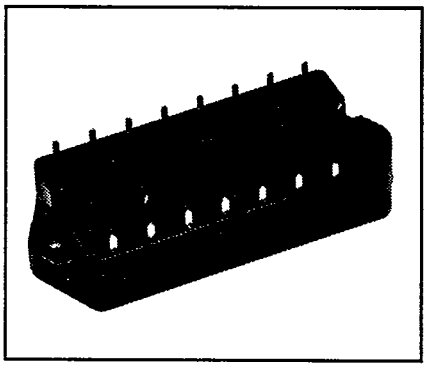
Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272
Powerex Europe, S.A., 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Six-Mos FETMOD™ Power Modules
8 Amperes/450-500 Volts



450-500 Volts JEE245B0, JEE250B0 Outline Drawing

Dimension	Inches	Millimeters
A	3.031	77
B	2.598 ± .006	66 ± 0.15
C	2 480	63
D	2 100	53.34
E	1 287	32.7
F	1 150	29.2
G	551	14
H	531	13.5
J	300	7.62
K	256	6 5
L	177	4.5
M	169 Dia	4 3 Dia.



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Power Modules
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Description
Powerex Six-Mos FETMOD™ Power Modules are designed for use in applications requiring high-frequency switching and low loss control. The modules are isolated consisting of six MOSFET Transistors connected in a three phase bridge configuration.

Features:
- ☐ Isolated Mounting
- ☐ Vertical DMOS Chips
- ☐ High Speed Body Diode
- ☐ Low Drive Requirement
- ☐ Fast Switching

Applications:
- ☐ AC Motor Control
- ☐ UPS Inverters
- ☐ Switch Mode Power Supply
- ☐ PWM Regulators

Ordering Information
Example: Select the complete eight digit module part number you desire from the table - i.e. JEE250B0 is a 500 Volt, 8 Ampere Six-Mos FETMOD™ Module.

Type	V_{DSS} Volts (x10)	Current Rating Amperes (8)
JEE2	45	B0
JEE2	50	B0

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Maximum Ratings T_J =25°C unless otherwise specified

	Symbol	JEE245B0/JEE250B0	Units
Junction Temperature	T_J	−40 to 150	°C
Storage Temperature	T_{STG}	−40 to 125	°C
Drain Source Voltage	V_{DSS}	450/500	Volts
Gate-Source Voltage	V_{GSS}	±20	Volts
Continuous Drain Current	I_D	6	Amperes
Continuous Source Current	I_S	6	Amperes
Pulsed Drain Current Repetitive	I_{DM}	24	Amperes
Power Dissipation	P_T	78	Watts
Max. Mounting Torque Mounting Screws (M6)	—	17	In.-lb.
Module Weight	—	50	Grams
V isolation	V_{RMS}	2000	Volts

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Static Electrical Characteristics T_J=25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	JEE245B0/JEE250B0 Min.	Typ.	Max.	Units
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=V_{DSS}$, $V_{GS}=0V$	—	—	1	mA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=0.8\ V_{DSS}$, $V_{GS}=0V$ $T_J=150°C$	—	—	4	mA
Gate Source Threshold	$V_{GS(th)}$	$I_D=1$ mA, $V_{DS}=10V$	2	3	4	Volts
Gate Source Leakage	$\pm I_{GSS}$	$\pm V_{GS}=\pm 20V$ $V_{DS}=0V$	—	—	0.1	μA
Drain Source On State Resistance*	$R_{DS(on)}$	$V_{GS}=15V$, $I_D=8A$	—	—	1.0	Ω
		$V_{GS}=15V$, $I_D=8A$, $T_J=150°C$	—	—	2.0	Ω
Drain Source On State Voltage*	$V_{DS(on)}$	$V_{GS}=15V$, $I_D=8A$	—	—	8	Volts
		$V_{GS}=15V$, $I_D=8A$, $T_J=150°C$	—	—	16	Volts
Thermal Resistance, Case to Sink Lubricated	$R_{\theta CS}$	—	—	—	0.6	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	Per Device	—	—	1.6	°C/W

* Pulse Test: Pulse width ≤ 10μs

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Source-Drain Characteristics T_J=25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	JEE245B0/JEE250B0 Min.	Typ.	Max.	Units
Source-Drain Voltage	V_{SD}	I_S=15A, V_{GS}=0V	—	—	2.5	Volts
Reverse Recovery Time	t_{rr}	I_S=8A, dI_S/dt=15A/μs, V_{GS}=0V	—	—	100	ns

Dynamic Electrical Characteristics T_J=25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	JEE245B0/JEE250B0 Min.	Typ.	Max.	Units
Forward Transconductance	g_{fs}	I_D=4A, V_{DS}=10V, $t_w \leq 300\mu s$, Duty=2%	4	20	—	mhos
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=10V, f=1 Mhz	—	—	2000	pf
Output Capacitance	C_{oss}		—	—	900	pf
Reverse Transfer Capacitance	C_{rss}		—	—	400	pf
Total Gate Charge	Q_G	V_{DD}=0.8 V_{DSS}, V_{GS}=10V, I_D=15A	—	—	150	nC
Turn On Time**	t_{on}	V_{DD}=0.5 V_{DSS}, I_D=8A, V_{GS}=15V, R_{GEN}=R_{GS}=50Ω	—	—	300	ns
Turn Off Time**	t_{off}		—	—	600	ns

** Turn on Time (t_{on})=Turn on Delay ($t_{d(on)}$)+Rise Time (t_r)
Turn-off Time (t_{off})=Turn off Delay ($t_{d(off)}$)+Fall Time (t_f)

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