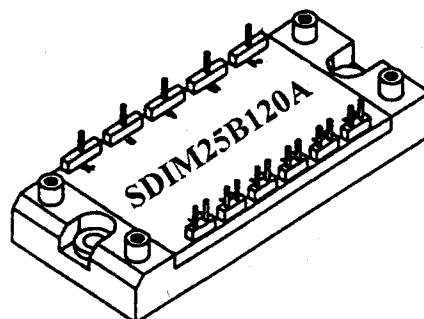


FEATURES:

- 10 A, 1200 V at $T_c = 110^\circ\text{C}$
- 3 Phase Output Inverter with Fast Free-Wheel Diodes
- Insulated Metal Baseplate
- 1200 V Switching SOA Capability
- Short Circuit Rated
- Low On-State Saturation Voltage
- Designed to meet VDE and UL
- Designed, manufactured, assembled and tested under ISO9001 certified quality management system

PACKAGE:



Package Designation B

Absolute Maximum Ratings $T_c = 25^\circ\text{C}$, Unless Otherwise Specified

	Symbol	Value	Unit
Collector Emitter Voltage.....	V_{CES}	1200	V
Collector Current			
Continuous	I_{C25}	25	A
Pulsed (Note 1).....	I_{CM}	80	A
Collector Current @ 110°C			
Continuous	I_{C110}	10	A
Pulsed (Note 1).....	I_{CM}		A
Gate Emitter Voltage Continuous	V_{GES}	± 20	V
Gate Emitter Voltage Pulsed	V_{GEM}	± 30	V
Switching Safe Operating Area at $T_J = 150^\circ\text{C}$, Figure TBD.....	SSOA	50 A @ 1200 V	
Short Circuit Withstand Time (Note 2) at $V_{GE} = 15\text{ V}$	t_{SC}	8	μs
Short Circuit Withstand Time (Note 2) at $V_{GE} = 12\text{ V}$	t_{SC}	15	μs
Isolation Voltage (50 - 60 Hz, 1 minute).....	V_{ISO}	2500	VAC
Operating Temperature	T_J	-40 TO 100	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 TO 150	$^\circ\text{C}$
Creepage Distance.....		16	mm
Clearance		11	mm

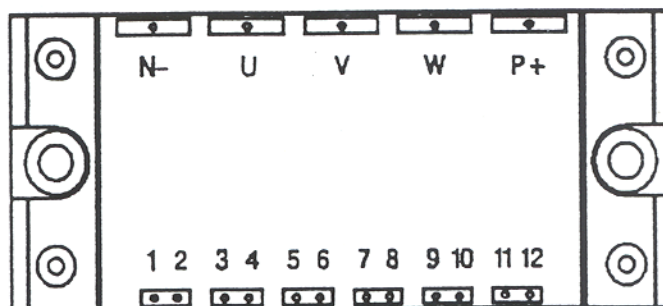
Notes: 1. Repetitive Rating: Pulse width limited by maximum junction temperature

2. $V_{GE(PK)} = 960\text{ V}$, $T_J = 125^\circ\text{C}$, $R_{GE} = 10\ \Omega$

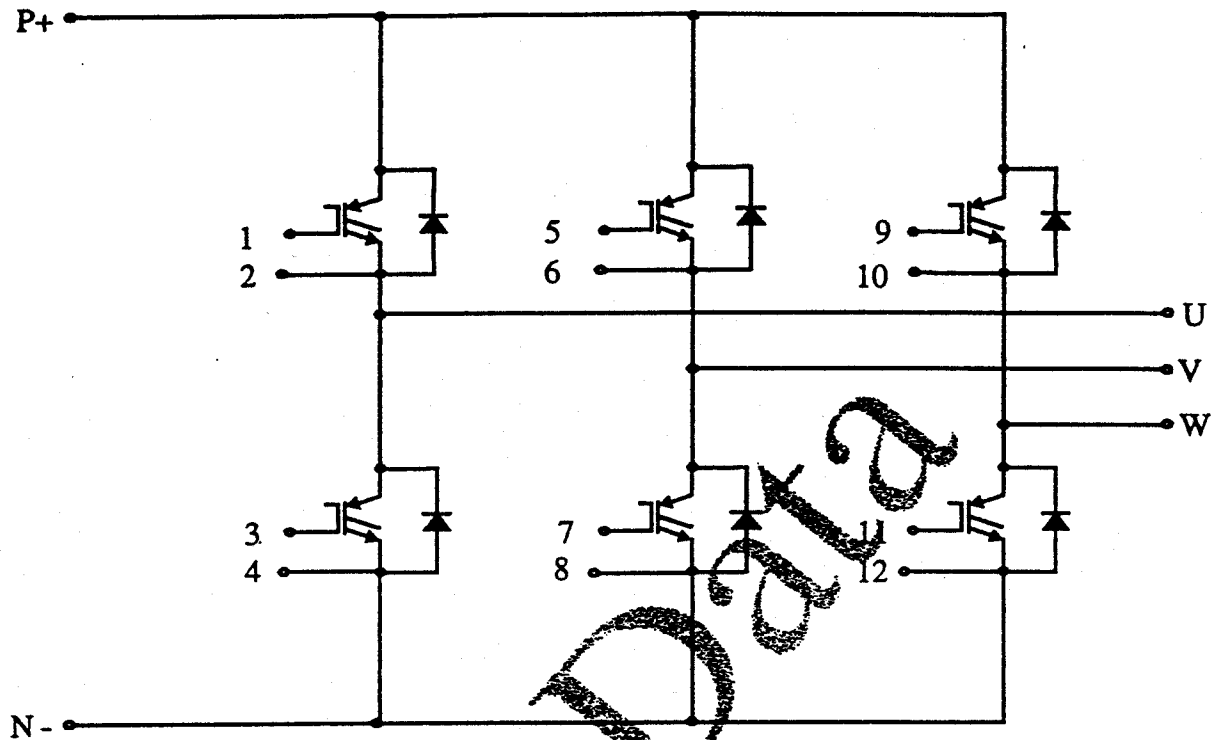
Electrical Specifications $T_C = 25^\circ\text{C}$, Unless otherwise specified

OUTPUT INVERTER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Collector Emitter Breakdown Voltage	BV_{CES}	$I_C = 250 \mu\text{A}$, $V_{GE} = 0 \text{ V}$	1200		-	V
Collector Emitter Leakage Current	I_{CES}	$V_{CE} = BV_{CES}$, $T_C = 25^\circ\text{C}$	-		250	μA
Collector Emitter Leakage Current	I_{CES}	$V_{CE} = BV_{CES}$, $T_C = 150^\circ\text{C}$	-	-	2.0	mA
Collector Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 10 \text{ A}$, $V_{GE} = 15 \text{ V}$, $T_C = 25^\circ\text{C}$	-	2.5	2.7	V
Collector Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 10 \text{ A}$, $V_{GE} = 15 \text{ V}$, $T_C = 150^\circ\text{C}$	-	3.7	4.2	V
Gate Emitter Threshold Voltage	$V_{GE(TH)}$	$I_C = 250 \mu\text{A}$, $V_{CE} = V_{GE}$	6.0	7.5	-	V
Gate Emitter Leakage Current	I_{GES}	$V_{GE} = \pm 20 \text{ V}$	-		± 250	nA
Switching SOA	SSOA	$T_J = 150^\circ\text{C}$, $R_G = 10 \Omega$, $V_{GE} = 15 \text{ V}$, $L = 1 \text{ mH}$, $V_{CE(PK)} = 960 \text{ V}$	-		-	A
Switching SOA	SSOA	$T_J = 150^\circ\text{C}$, $R_G = 10 \Omega$, $V_{GE} = 15 \text{ V}$, $L = 1 \text{ mH}$, $V_{CE(PK)} = 1200 \text{ V}$	50		-	A
Gate Emitter Plateau Voltage	V_{GEP}	$I_C = 15 \text{ A}$, $V_{CE} = 300 \text{ V}$	-	10.9	-	V
On State Gate Charge	$Q_{g(ON)}$	$I_C = 10 \text{ A}$, $V_{CE} = 100 \text{ V}$, $V_{GE} = 15 \text{ V}$	-	100	115	nC
On State Gate Charge	$Q_{g(ON)}$	$I_C = 10 \text{ A}$, $V_{CE} = 300 \text{ V}$, $V_{GE} = 20 \text{ V}$	-	125	150	nC
Current Turn On Delay	$t_{d(ON)}$	$T_J = 150^\circ\text{C}$ $I_C = 10 \text{ A}$ $V_{CE(PK)} = 960 \text{ V}$ $V_{GE} = 15 \text{ V}$ $R_G = 10 \Omega$ $L = 1 \text{ mH}$	-	24	29	ns
Current Rise Time	t_{ri}		-	12	15	ns
Current Turn Off Delay	$t_{d(OFF)}$		-	190	220	ns
Current Fall Time	t_{fi}		-	160	200	ns
Turn On Energy	E_{ON}		-	400	500	μJ
Turn Off Energy	E_{OFF}		-	1560	2000	μJ
Diode Forward Voltage	V_F	$I_F = 15 \text{ A}$	-	3.2	-	V
Diode Reverse Recovery Time		$I_F = 1 \text{ A}$, $di/dt = 200 \text{ A}/\mu\text{s}$	-	65	-	ns
Diode Reverse Recovery Time	t_{rr}	$I_F = 15 \text{ A}$, $di/dt = 200 \text{ A}/\mu\text{s}$	-	75	-	ns
Thermal Resistance	$R_{\theta(JC)}$	IGBT	-	0.9	-	$^\circ\text{C}/\text{W}$
Thermal Resistance	$R_{\theta(JC)}$	DIODE	-	1.6	-	$^\circ\text{C}/\text{W}$

Package Pin Out



Circuit Configuration (F)



B Package Designation Dimensional Outline

