F18 SERIES
POWER MODULES

Features

- Industry Standard Package and Circuits
- Power Control Building Blocks
- 8 Circuits to Choose from
- UL Recognized E72445

SPECIFICATIONS

Electrical

Description	Symbol	27	42	57	92	107 [2]
Maximum DC Output Current (Tc = 85°C)	I_D	25 A	40 A	55 A	90 A	150 A
Maximum Voltage Drop @ Amps Peak	V_F	1.55V @ 75 A	1.4V @ 120 A	1.4V @ 165 A	1.40V @ 270 A	1.65V @ 300 A
Operating Junction Temperature Range	T_J	-40 - 125°C	-40 - 125°C	-40 - 125°C	-40 - 125°C	-40 - 125°C
Critical Rate of Rise of On-State Current @ TJ=125°C [A/µs]	di/dt	100	100	100	100	100
Critical Rate of Rise of Off-State Voltage [V/µs]	dv/dt	1000	1000	1000	1000	1000
Repetitive Peak Reverse Voltage (AC Line Nominal) [Vpk]	V_{RRM}	400 (120 VAC)				
		600 (240 VAC)				
		1000 (380 VAC)				
		1200 (480 VAC)				
		1400 (530 VAC)				
		1600 (600 VAC)				
Maximum Non-Repetitive Surge Current (1/2 Cycle, 60 Hz) [A]	I_{TSM}	400	1000	1500	1950	2250
Maximum I²t for Fusing (t=8.3ms) [A²sec]	I²t	670	4150	9350	15800	25000
Maximum Required Gate Current to Trigger @ 25°C [mA]	I_{GT}	150	150	150	150	150

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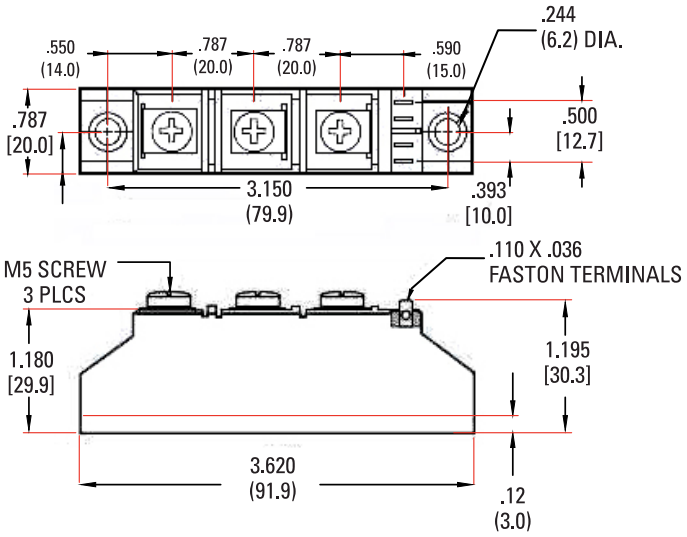
Maximum Required Gate Voltage to Trigger @ 25°C [V]	V_{GT}	3.0	3.0	3.0	3.0	3.0
Average Gate Power [W]	$P_{G(AV)}$	0.5	0.5	0.5	0.5	0.5
Maximum Peak Reverse Gate Voltage [V]	V_{GM}	5.0	5.0	5.0	5.0	5.0
Maximum Thermal Resistance, Junction to Ceramic Base per Chip [°C/W]	R_{JC}	0.4	0.28	0.25	0.14	0.135
Isolation Voltage [Vrms]	V_{ISOL}	2500	2500	2500	2500	2500

General

Description	Parameters
Weight (typical)	4.75 oz (135g)
Torque Required	Terminal Stud Screw : 30 lb-in. Mounting Screws : 20 lb-in

MECHANICAL SPECIFICATIONS

Tolerance: ±0.02 in / 0.5 mm
All dimensions are in: inches [millimeters]



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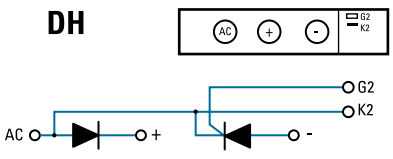
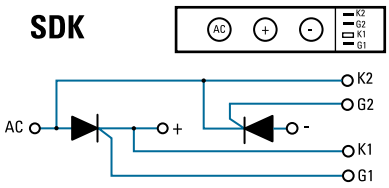
CIRCUIT DIAGRAMS

DH



SDK



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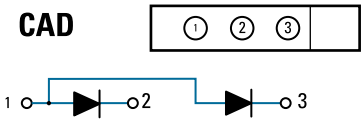
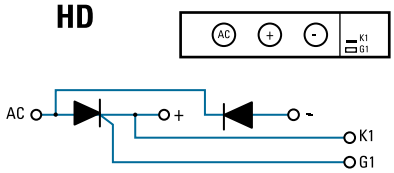
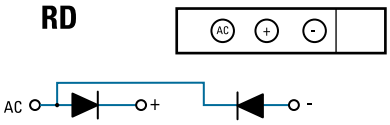


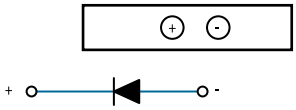
HD



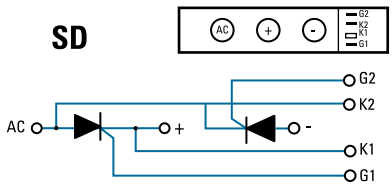
RD



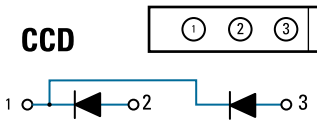
D



SD



CCD



ORDERING OPTIONS

Example : F1892SD1200

F18	92	SD	1200

Series

F18

Load Current

27 : 25 Amps
42 : 40 Amps
57 : 55 Amps
92 : 90 Amps
107 : 105 Amps

Circuit Type

CAD HD RD D
CCD DH SDK SD

Operating Voltage

400 : 120 VAC
600 : 240 VAC
1000 : 380 VAC
1200 : 480 VAC
1400 : 530 VAC
1600 : 600 VAC

— Required for valid part number
☐ For options only and not required for valid part number

NOTE: Not all combinations are available.
Consult factory for information on the availability of a specific part number.

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GENERAL NOTES

(1) All parameters at 25°C and per section unless otherwise specified.
(2) Available only in HD, RD and SD circuit configuration.

AGENCY APPROVALS & CERTIFICATIONS

E72445

WARNINGS

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE
- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH
- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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