

## F18 Series



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

### AVAILABLE OPTIONS



### ELECTRICAL SPECIFICATIONS

	Symbol	27	42	57	92	107(2)
Maximum DC Output Current (Tc = 85°C)	I <sub>D</sub>	25 A	40 A	55 A	90 A	105 A
Maximum Voltage Drop @ Amps Peak	V <sub>F</sub>	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 <sub>J</sub>	-40 - 125° C	-40 - 125°C	-40 - 125°C	-40 - 125°C	-40 - 125°C
Critical Rate of Rise of On-State Current @ T <sub>J</sub> =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 <sub>RRM</sub>			400 (120 VAC)		
				600 (240 VAC)		
				800 (280 VAC)		
				1200 (480 VAC)		
				1400 (530 VAC)		
Maximum Non-Repetitive Surge Current (1/2 Cycle, 60 Hz) [A]	I <sub>TSM</sub>	400	1000	1500	1950	2250
		670	4150	9350	15800	25000
Maximum I <sup>2</sup> T for Fusing (t=8.3ms) [A <sup>2</sup> sec]	I <sup>2</sup> T					
Maximum Required Gate Current to Trigger @ 25°C [mA]	I <sub>GT</sub>	150	150	150	150	150
Maximum Required Gate Voltage to Trigger @ 25°C [V]	V <sub>GT</sub>	3.0	3.0	3.0	3.0	3.0
Average Gate Power [W]	P <sub>G(AV)</sub>	0.5	0.5	0.5	0.5	0.5
Maximum Peak Reverse Gate Voltage [V]	V <sub>GM</sub>	5.0	5.0	5.0	5.0	5.0
Maximum Thermal Resistance, Junction to Ceramic Base per Chip [°C/W]	R <sub>JC</sub>	0.4	0.28	0.25	0.14	0.135
Isolation Voltage [Vrms]	V <sub>ISDL</sub>	2500	2500	2500	2500	2500

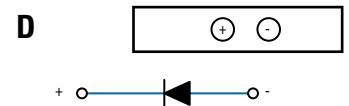
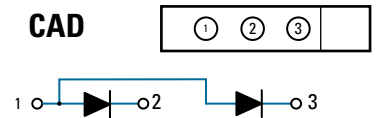
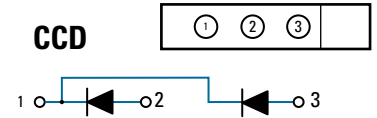
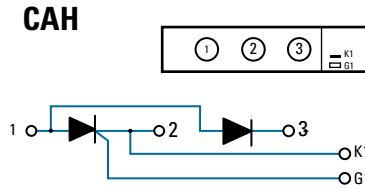
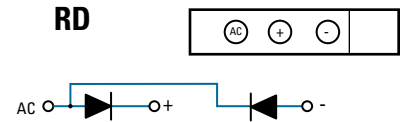
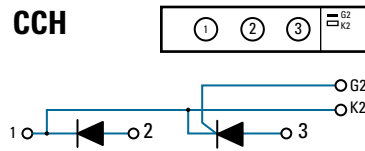
### GENERAL SPECIFICATIONS

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

### GENERAL NOTES

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

**CIRCUIT DIAGRAMS**



**MECHANICAL SPECIFICATIONS**

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



**Agency Approvals**



Rev. 012518  
ECN#20400

**! DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / 危险**

<p><b>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.</b></p> <ul style="list-style-type: none"> <li>• Disconnect all power before installing or working with this equipment.</li> <li>• Verify all connections and replace all covers before turning on power.</li> </ul> <p><b>Failure to follow these instructions will result in death or serious injury.</b></p>	<p><b>RIESGO DE DESCARGA ELECTRICA O EXPLOSION.</b></p> <ul style="list-style-type: none"> <li>• Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.</li> <li>• Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.</li> </ul> <p><b>El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.</b></p>	<p><b>RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION</b></p> <ul style="list-style-type: none"> <li>• Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil</li> <li>• Vérifier tous connexions, et remettre tous couverts en place avant de mettre sous</li> </ul> <p><b>De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.</b></p>	<p><b>GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.</b></p> <ul style="list-style-type: none"> <li>• Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen</li> <li>• Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.</li> </ul> <p><b>Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.</b></p>	<p><b>RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.</b></p> <ul style="list-style-type: none"> <li>• Spenga tutta l'alimentazione che fornisce questa apparecchiatura prima di lavorare a questa apparecchiatura</li> <li>• Verificare tutti i collegamenti e sostituire tutte le coperture prima dell'accensione</li> </ul> <p><b>L'omissione di queste istruzioni provocherà la morte o lesioni serie</b></p>	<p><b>存在电击、爆炸或电弧闪烁危险</b></p> <ul style="list-style-type: none"> <li>• 在操作此设备之前请先关闭电源。</li> </ul> <p><b>若不遵守这些说明,可能会导致严重的人身伤害甚至死亡。</b></p>
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**! WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / 警告**

<p><b>RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE</b></p> <ul style="list-style-type: none"> <li>• The product's side panels may be hot, allow the product to cool before touching.</li> <li>• Follow proper mounting instructions including torque values.</li> <li>• Do not allow liquids or foreign objects to enter this product.</li> </ul> <p><b>Failure to follow these instructions can result in serious injury, or equipment damage.</b></p>	<p><b>RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER</b></p> <ul style="list-style-type: none"> <li>• Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.</li> <li>• Respecter les consignes de montage, et notamment les couples de serrage.</li> <li>• Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.</li> </ul> <p><b>Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.</b></p>	<p><b>GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG</b></p> <ul style="list-style-type: none"> <li>• Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.</li> <li>• Beachten Sie die Montageanweisungen,</li> <li>• Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.</li> </ul> <p><b>Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.</b></p>
<p><b>RIESGO DE DAÑOS MATERIALES Y DE SOBRECIENTAMIENTO DE LA UNIDAD</b></p> <ul style="list-style-type: none"> <li>• Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.</li> <li>• Respetar las instrucciones de montaje, y en particular los pares de apretado.</li> <li>• No dejar que penetren líquidos o cuerpos extraños en el producto.</li> </ul> <p><b>Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.</b></p>	<p><b>RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO</b></p> <ul style="list-style-type: none"> <li>• I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.</li> <li>• Seguire le istruzioni di montaggio corrette.</li> <li>• Non far entrare liquidi o oggetti estranei in questo apparecchio.</li> </ul> <p><b>La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.</b></p>	<p><b>材料损坏和高温外壳的危险性</b></p> <ul style="list-style-type: none"> <li>• 产品的一侧面板可能很热, 在其冷却前请不要触碰。</li> <li>• 遵照正确的安装说明, 包括扭矩值。</li> <li>• 请勿让液体及其他异物进入本产品。</li> </ul> <p><b>如不能正确执行这些操作说明, 极有可能造成严重人体伤害或者设备的损坏。</b></p>