

Product Manuals

Leader of SiC Power Module



HPD series SiC module

Three phase full bridge/ pin
xEV/ FCV

1200V 400A
1200V 600A
1200V 800A



ED3 series SiC module

Boost
FCV/ Industry

1200V 300A
1200V 400A



ED3S series SiC module

Dual Boost/ H-Bridge/ Half Bridge
FCV/ Industry/ Medical

1200V
200A ~ 800A
1700V
400A ~ 600A



F0 series hybrid module

Boost
Solar Inverter/ Industry

1200V
50A ~ 100A



E2 series SiC module

H-Bridge/ Half Bridge
xEV/ FCV/ Industry

1200V
100A ~ 300A



E0 series SiC module

H-Bridge/ Half Bridge
xEV/ FCV/ Industry

1200V
50A ~ 150A



ED3 IGBT module

Half bridge
Solar, Wind Inverter/Industry

1200V 450A
1200V 600A
1700V 450A
1700V 600A



HPD SiC Module

Three-phase water-cooling SiC module applied for xEV, FCV, etc



Package: HPD
W126.5xL154.5xH32 mm

Applications

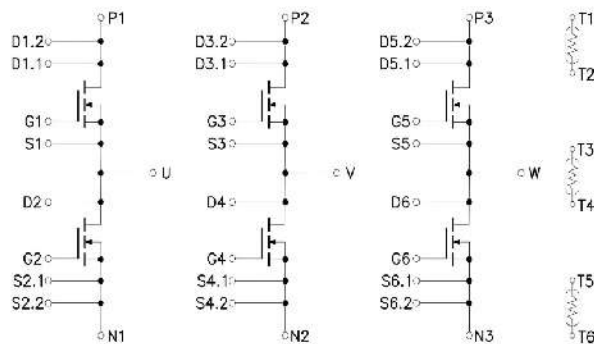
- ◆ xEV Applications
- ◆ Motor Drives

Features

- ◆ Blocking voltage 1200V
- ◆ low on-resistance $R_{DS(on)}$
- ◆ Arcbonding™ technology
- ◆ 175°C maximum junction temperature
- ◆ Si3N4 AMB substrate
- ◆ Direct Cooled Pin Fin Base Plate
- ◆ Thermistor inside
- ◆ Press FIT Contact Technology

Product Series

Voltage (V)	Part Number	Configure	Current (A)	Rdson (mΩ)
1200	DFS04FB12HDW1	Full Bridge	400	4.2
	DFS03FB12HDW1		600	2.8
	DFS02FB12HDW1		800	2.1
	DFS04FB12HDB1		400	4.2
	DFS03FB12HDB1		600	2.8
	DFS02FB12HDB1		800	2.1



Full Bridge

ED3 SiC Module

SiC module applied for FCV, Industry, etc



Package: ED3
W62.5 x L152 x H20.5 mm

Applications

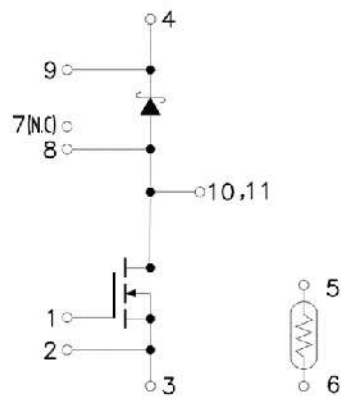
- ◆ xEV Applications
- ◆ Converter
- ◆ Vehicle Fast Chargers
- ◆ Smart-Grid / Grid-Tied Distributed Generation

Features

- ◆ Blocking voltage 1200V
- ◆ low on-resistance $R_{DS(on)}$
- ◆ Low Switching Losses
- ◆ 175°C maximum junction temperature
- ◆ Low Inductive Design
- ◆ Si_3N_4 AMB substrate
- ◆ Thermistor inside

Product Series

Voltage (V)	Part Number	Configure	Current (A)
1200	DFS300CU12I4W2	Chopper	300
	DFS400CU12I4W2		400



Chopper

E0 SiC Module

SiC module applied for xEV, FCV, Industry, etc



Package: E0
W34.8 x L62.8 x H16 mm

Applications

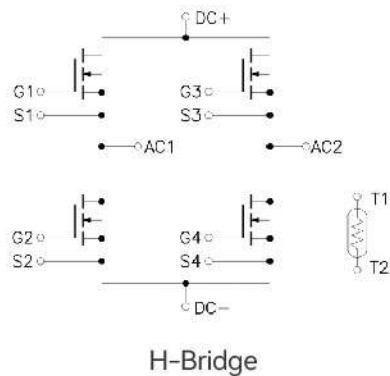
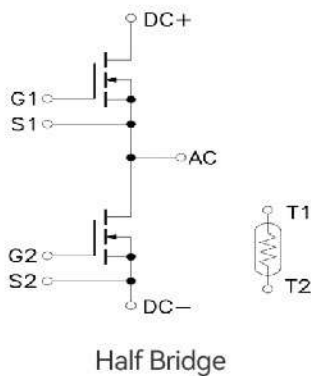
- ◆ Solar Inverter
- ◆ Fuel cell-DC/DC converter
- ◆ Uninterruptible Power Supplier
- ◆ Energy Storage Systems

Features

- ◆ Blocking voltage 1200V
- ◆ Low Switching Losses
- ◆ 175°C maximum junction temperature
- ◆ Si₃N₄ DBC
- ◆ Thermistor inside
- ◆ Maximum output current 150A (T_F=75°C)

Product Series

Voltage (V)	Part Number	Configure	RDson (mΩ)
1200	DFS05HF12EYR1	Half Bridge	5.5
	DFS09HF12EYR1		9
	DFS20HF12EYQ1		20
	DFS26HF12EYQ1		26
	DFS40HF12EYQ1		40
	DFS26HH12EYQ1	H Bridge	26
	DFS40HH12EYQ1		40



E2 SiC Module

SiC module applied for xEV, FCV, Industry, etc



Package: E2
W63 x L58 x H16 mm

Applications

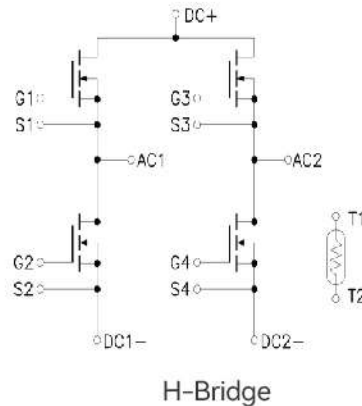
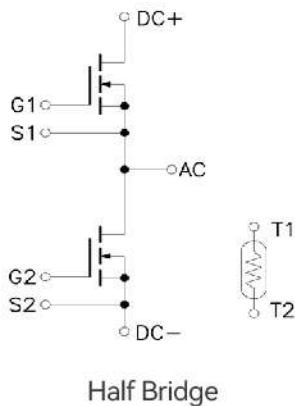
- ◆ Solar inverter Systems
- ◆ Fuel cell-DC/DC converter
- ◆ Uninterruptible Power Supplier
- ◆ Energy Storage Systems

Features

- ◆ Blocking voltage 1200V
- ◆ Low Switching Losses
- ◆ 175°C maximum junction temperature
- ◆ Si₃N₄ DBC
- ◆ Thermistor inside

Product Series

Voltage (V)	Part Number	Configure	RDson (mΩ)
1200	DFS04HF12EZR1	Half Bridge	4.5
	DFS05HF12EZR1		5.5
	DFS09HF12EZR1		9
	DFS09HH12EZR1	H Bridge	9
	DFS20HH12EZQ1		20



ED3S SiC Module

SiC module applied for FCV, Industry, Medical, etc



Package: ED3S
W62 x L109 x H20.9 mm

Applications

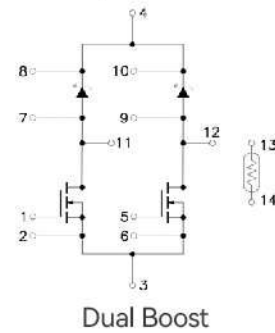
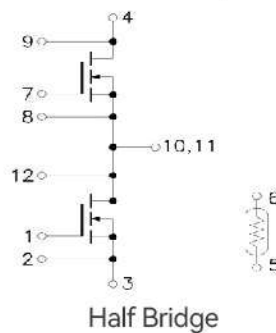
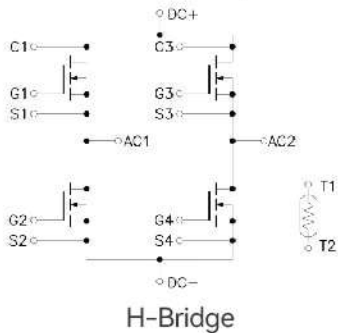
- ◆ xEV Applications
- ◆ Converter
- ◆ Vehicle Fast Chargers
- ◆ Smart-Grid / Grid-Tied Distributed Generation

Features

- ◆ Blocking voltage 1200V 1700V
- ◆ Low thermal resistance with Si₃N₄ AMB
- ◆ 175°C maximum junction temperature
- ◆ Low Inductive Design
- ◆ Thermistor inside
- ◆ Copper base size: 79mm*62mm

Product Series

Voltage (V)	Part Number	Configure	Current (A)
1200	DFS300HH12I3B2	H Bridge	300
	DFS400HH12I3B2		400
	DFS600HF12I3B2	Half Bridge	600
	DFS800HF12I3B2		800
	DFS200X2CU12I3R1	Dual Boost	200
	DFS300X2CU12I3R1		300
	DFS400X2CU12I3R1		400
1700	DFS400HF17I3W1	Half-Bridge	400
	DFS600HF17I3W1		600



F0 Hybrid Module

Hybrid module applied for Solar Inverter, Industry, etc



Package: F0

W32.5 x L65.9 x H16.23 mm

Applications

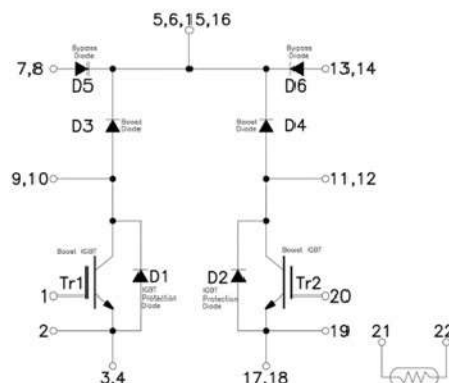
- ◆ Solar Inverter
- ◆ Fuel cell-DC/DC converter
- ◆ Uninterruptible Power Supplier
- ◆ Energy Storage Systems

Features

- ◆ Blocking voltage 1200V
- ◆ Very low saturation voltage VCE(sat)
- ◆ SiC Diode
- ◆ 1600V Bypass and Anti-parallel Diodes
- ◆ Low Inductive Design
- ◆ Thermistor inside

Product Series

Voltage (V)	Part Number	Configure	Current (A)
1200	DFH50CU12F0H1	Dual Boost	50



Dual Boost



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