

HERMETIC MOSFET MODULES WITH GATE DRIVERS

N-CHANNEL MOSFET DEVICES WITH FAST RECOVERY INTRINSIC DIODES
MOSFET CHARACTERISTICS

PART NUMBER	V _{DSS}	Continuous Drain Current I _D @ T _C =25°C	Pulsed Drain Current T _C =25°C 1 ms	V _{SD} @ I _D	R _{ds(on)} @I _C		I _{rr} max @di/dt= 100A/μsec	Maximum P _D @ T _C =25°C	R _{JA}	Package Style & Schematic Configuration Option	
	Volts	Amps	Amps	V	Ω	A	nsec	Watts	°C/W	Package	Schematic
SPM2M28-10	100	28	110	2.5	0.077	17	360	150	0.83	Pkg-1	Opt-3
SPM2M18-20	200	18	72	2.0	0.18	11	610	176	0.71	Pkg-1	Opt-3
SPM2M41-10	100	75	300	1.5	0.02	25	200	200	0.35	Pkg-2	Opt-3
SPM2M50-20	200	50	200	1.5	0.045	25	300	350	0.35	Pkg-2	Opt-3
SPM2M35-30	300	35	140	1.5	0.1	17	200	350	0.35	Pkg-2	Opt-3
SPM2M20-60	600	20	100	1.5	0.35	10	400	350	0.35	Pkg-2	Opt-3
SPM4M18-20	200	18	72	2.0	0.18	11	610	176	0.71	Pkg-2	Opt-4
SPM4M28-10	100	75	300	1.5	0.02	25	200	200	0.35	Pkg-3	Opt-4
SPM4M50-20	200	50	200	1.5	0.045	25	300	350	0.35	Pkg-3	Opt-4
SPM4M35-30	300	35	140	1.5	0.1	17	200	350	0.35	Pkg-3	Opt-4
SPM4M20-60	600	20	100	1.5	0.35	10	400	350	0.35	Pkg-3	Opt-4
SPM6M28-10	100	28	110	2.5	0.077	17	360	150	0.83	Pkg-3	Opt-5
SPM6M18-20	200	18	72	2.0	0.18	11	610	176	0.71	Pkg-3	Opt-5
SPM6M90-06	60	90	360	2.5	0.014	54	540	255	0.49	Pkg-4	Opt-5
SPM6M41-10	100	75	300	1.5	0.02	25	200	200	0.35	Pkg-4	Opt-5
SPM6M50-20	200	50	200	1.5	0.045	25	300	350	0.35	Pkg-4	Opt-5
SPM6M35-30	300	35	140	1.5	0.1	17	200	350	0.35	Pkg-4	Opt-5
SPM6M20-60	600	20	100	1.5	0.35	10	400	350	0.35	Pkg-4	Opt-5

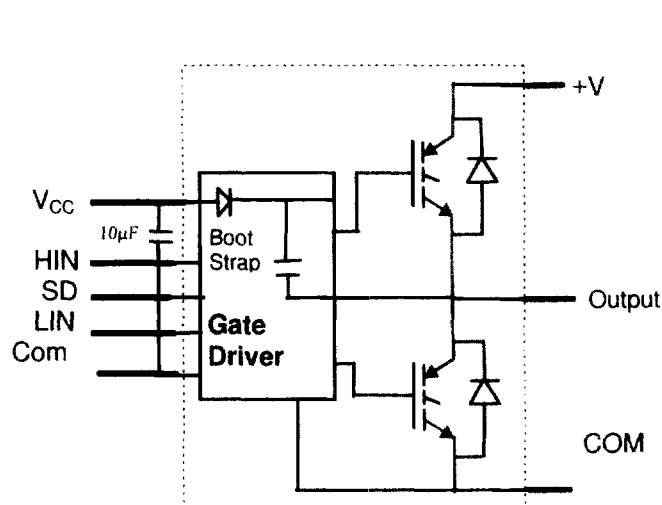
GATE DRIVER CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Logic DC Supply	V _{CC}	10	18	20	V
Logic Input Voltage (HIN & LIN)	HIN, LIN, SD	-0.3	-	V _{CC} +0.3	V

Notes:

- 1- **Bold part numbers** indicate preferred devices.
- 2- For devices with custom ratings, please contact the factory or a Sensitron Sales Representative for details

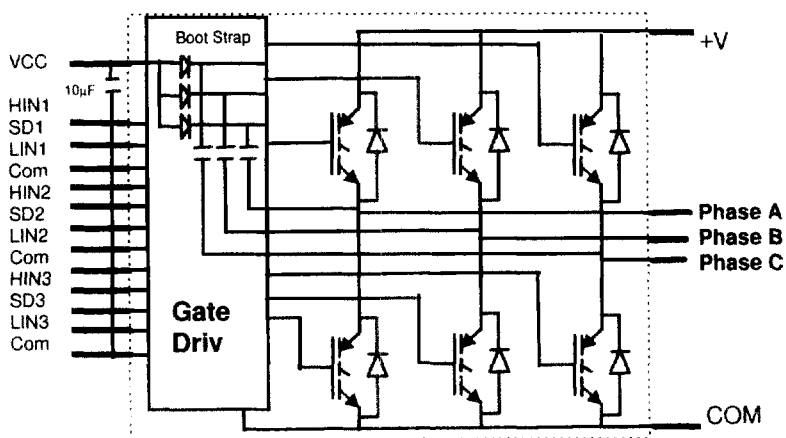
SCHEMATIC DIAGRAMS FOR IGBT MODULES WITH GATE DRIVERS

(a) Half-Bridge IGBT Module
(Option-1)Pin Assignment
for Pkg-2

Function	Pin #
VCC	2
HIN1	3
SD1	4
LIN1	5
Com	6
+V	11,12
Out	9,10
COM	7,8

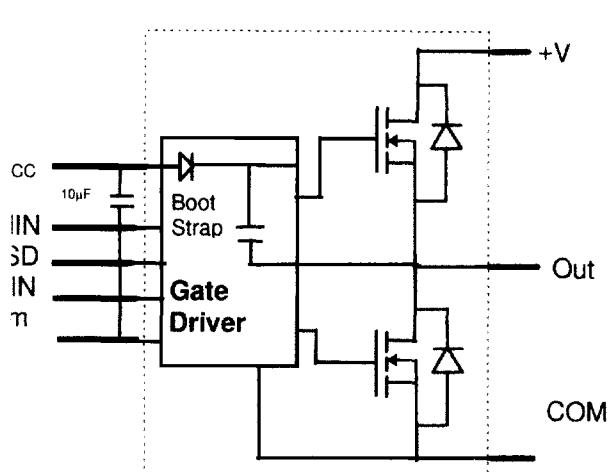
Pin Assignment
for Pkg-3

Function	Pin #
VCC	4
HIN1	5
SD1	6
LIN1	7
Com	8
+V	16,17,18
Out	13,14,15
COM	10,11,12

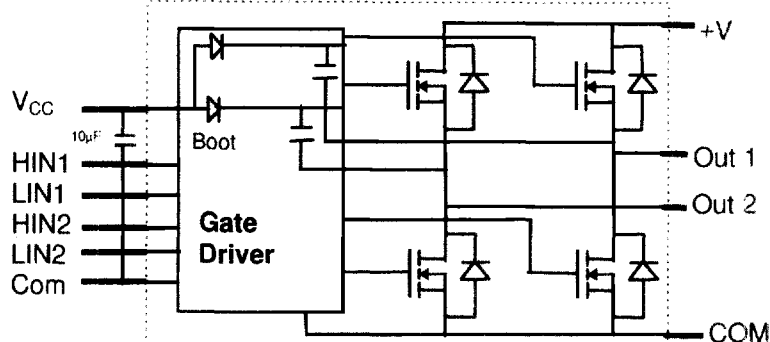
(b) Three-Phase Bridge IGBT Module
(Option-2)Pin Assignment
for Pkg-4

Function	Pin #
VCC	1
HIN1	2
SD1	3
LIN1	4
Com	5
HIN2	6
SD2	7
LIN2	8
Com	9
HIN3	10
SD3	11
LIN3	12
Com	13
+V	24,25,26
PhA	22,23
PhB	19,20
PhC	17,18
COM	14,15,16

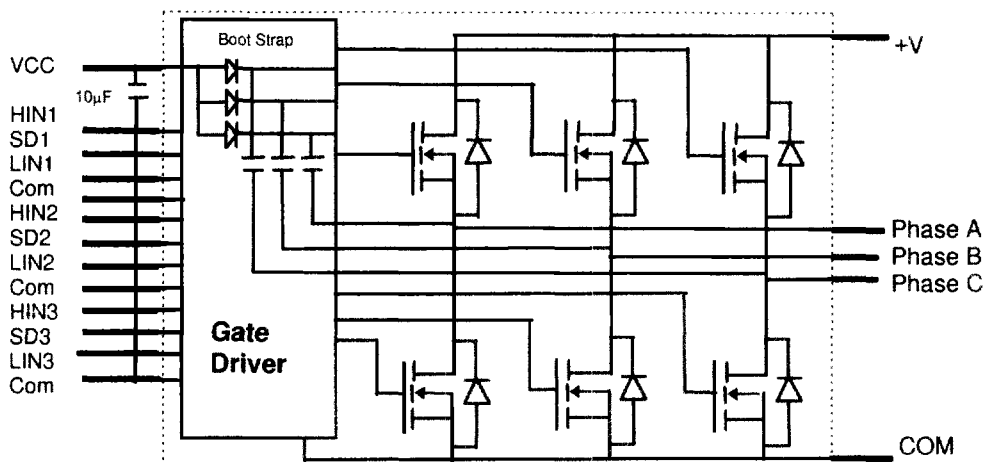
SCHEMATIC DIAGRAM FOR MOSFET MODULES WITH GATE DRIVERS



(a) Half-Bridge MOSFET Module
(Option-3)



(b) H-Bridge MOSFET Module
(Option-4)



(c) Three-Phase Bridge MOSFET Module
(Option-5)

Pin Assignment
for Pkg-1 & Pkg-2 with
Schematic Opt-3

Function	Pin #
VCC	2
HIN1	3
SD1	4
LIN1	5
Com	6
+V	11, 12
Out	9, 10
COM	7, 8

Pin Assignment
for Pkg-2 with
Schematic Opt-4

Function	Pin #
VCC	1
HIN1	2
LIN1	3
HIN2	4
LIN2	5
Com	6
+V	12
Out1	10, 11
Out2	8, 9
COM	7

Pin Assignment
for Pkg-3 with
Schematic Opt-4

Function	Pin #
VCC	1
HIN1	2
SD1	3
LIN1	4
Com	5
HIN2	6
SD2	7
LIN2	8
Com	9
+V	17, 18
Out1	15, 16
Out2	12, 13
COM	10, 11

Pin Assignment
for Pkg-3 with
Schematic Opt-4

Function	Pin #
VCC	1
HIN1	2
LIN1	3
HIN2	4
LIN2	5
Com	6
HIN3	7
LIN3	8
Com	9
+V	17, 18
PhA	15, 16
PhB	13, 14
PhC	11, 12
COM	10

Pin Assignment
for Pkg-4 with
Schematic Opt-5

Function	Pin #
VCC	1
HIN1	2
SD1	3
LIN1	4
Com	5
HIN2	6
SD2	7
LIN2	8
Com	9
HIN3	10
SD3	11
LIN3	12
Com	13
+V	24, 25, 26
PhA	22, 23
PhB	19, 20
PhC	17, 18
COM	14, 15, 16

Technical drawing of a 12-pin connector. The drawing includes three views: a top view, a side view, and a front view. Dimensions are provided in inches (imperial) and millimeters (metric).

Top View Dimensions:

- Overall width: 1.530 (38.86)
- Pin pitch (between pins 1-6): 0.1020 (25.91)
- Pin pitch (between pins 7-12): 0.98024 (8.91)
- Distance from left edge to pin 1: 0.195 (4.95)
- Distance from right edge to pin 12: 0.045 (1.14)
- Distance from left edge to pin 7: 0.1804 (5.7)
- Distance from right edge to pin 6: 0.0350 (8.9)
- Pin diameter: Dia 0.161 (4.09)
- Radius R: 0.175 (4.44)
- Distance from left edge to pin 12: 0.1513 (8.4)
- Distance from right edge to pin 7: 0.1654 (19)
- Distance from pin 1 to pin 6: 0.135 (3.43)
- Distance from pin 7 to pin 12: 0.1152 (9.2)
- Distance from pin 1 to pin 12: 0.635 (16.13)
- Distance from pin 6 to pin 7: 0.61515 (6.2)

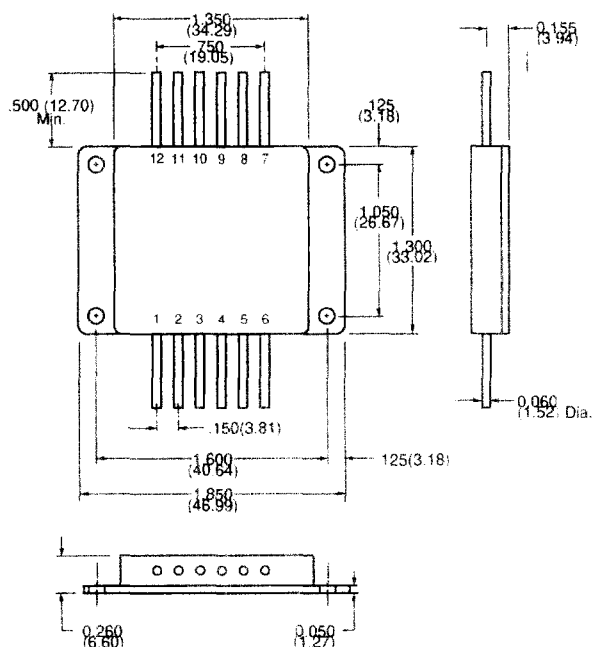
Side View Dimensions:

- Pin height: 0.160 (4.06)
- Pin diameter: 0.1403 (5.6)

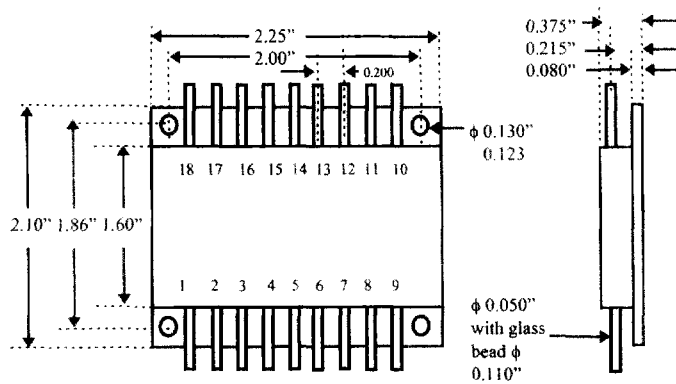
Front View Dimensions:

- Overall width: 0.280 (7.11)
- Distance from left edge to pin 1: 0.2406 (10)
- Distance from right edge to pin 12: 0.055 (1.40)
- Distance from left edge to pin 6: 0.0451 (1.4)

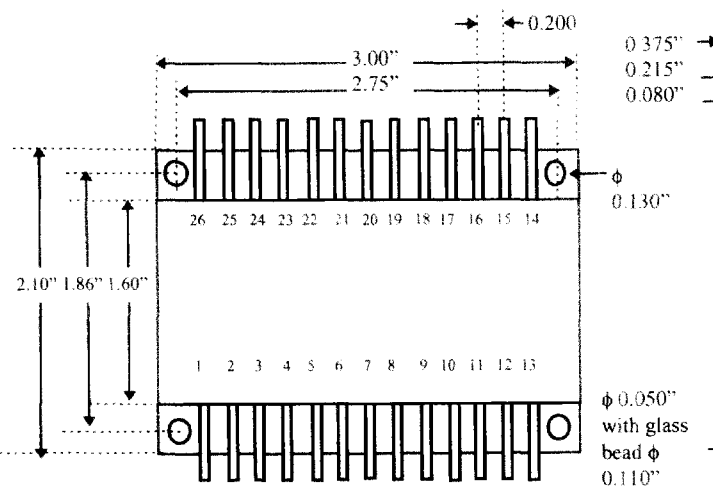
**(a) Package-1
(Pkg-1)**



**(b) Package-2
(Pkg-2)**



**(c) Package-1
(Pkg-3)**



**(d) Package-2
(Pkg-4)**