DATA SHEET 658, REV. -

Standard Industrial Grade MOSFET Power Modules

FEATURES:

- **High Power Density**
- **Low Drain to Source Resistance ($R_{DS(on)}$)**
- **Low Thermal Resistance ($R_{\theta JC}$)**

INDUSTRIAL MOSFET PRODUCT MAP

		I_D (Amps)						
CONFIG-URATION	**V_{DSS} (V)**	10	25	50	100	200	300	400
Single	60	-	-	-	-	-	-	SPM1M350-006 SPM1M400-006
	100	-	-	-	-	SPM1M250-010	SPM1M300-010	-
	300	-	-	-	SPM1M130-030 SPM1M160-030	-	-	-
	600	-	-	SPM1M070-060	SPM1M090-060	-	-	-
	1000	-	-	SPM1M045-100 SPM1M065-100	-	-	-	-
Half-Bridge	60	-	-	-	-	SPM2M200-006 SPM2M250-006	-	-
	100	-	-	-	SPM2M150-010	SPM2M200-010	-	-
	300	-	-	-	SPM2M080-030 SPM2M120-030	-	-	-
	600	-	-	SPM2M040-060 SPM2M050-060	-	-	-	-
	1000	-	SPM2M025-100 SPM2M035-100	-	-	-	-	-
H-Bridge	60	-	-	SPC4M075-006	SPM4M130-006	-	-	-
	100	-	-	SPC4M045-010 SPC4M075-010	SPM4M130-010	-	-	-
	200	-	SPC4M030-020	SPC4M050-020	-	-	-	-
	300	-	-	SPC4M040-030	SPM4M080-030	-	-	-
	600	-	SPC4M020-060	SPM4M040-060	-	-	-	-
	1000	SPC4M012-100	SPM4M024-100	-	-	-	-	-

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Industrial Grade MOSFET Power Modules

INDUSTRIAL MOSFET PRODUCT MAP

		I_D (Amps)						
CONFIG-URATION	**V_{DSS} (V)**	10	25	50	100	200	300	400
Dual H-Bridge	60	-	-	SPC8M075-006	-	-	-	-
	100	-	-	SPC8M045-010	-	-	-	-
	200	-	SPC8M030-020	-	-	-	-	-
	600	SPC8M011-060	-	-	-	-	-	-
3-Phase Bridge	60	-	-	SPC6M075-006	-	-	-	-
	100	-	-	SPC6M045-010	-	-	-	-
	200	-	SPC6M030-020	-	-	-	-	-
	600	SPC6M011-060	-	-	-	-	-	-
	1000	SPC6M006-100	-	-	-	-	-	-

Note:
Operating temperature range is -40°C to 125°C; storage temperature range is -40°C to 150°C.

INDUSTRIAL MOSFET MODULES

Single Devices

MOSFET CHARACTERISTICS

PART NUMBER	V_{DSS}	Continuous Drain Current I_C @ Tc=25°C	Pulsed Drain Current T_C=25°C	$R_{ds(on)}$@I_D		C_{iss} Typ	t_{rr} max 25°C	Maximum P_D@ T_C=25°C	$R_{\theta JC}$
	Volts	Amps	Amps	Ω	A	nF	ns	Watts	°C/W
SPM1M350-006	60	350	900	0.003	60	18	60	800	0.14
SPM1M400-006	60	400	1000	0.002	100	28	60	1000	0.11
SPM1M250-010	100	250	700	0.007	60	18	200	1000	0.11
SPM1M300-010	100	300	900	0.005	100	28	200	1500	0.07
SPM1M130-030	300	130	400	0.030	60	18	200	1000	0.11
SPM1M160-030	300	160	600	0.018	90	28	200	1500	0.07
SPM1M070-060	600	70	250	0.100	30	18	250	1000	0.11
SPM1M090-060	600	90	350	0.070	50	28	250	1500	0.07
SPM1M045-100	1000	45	140	0.300	20	18	250	1000	0.11
SPM1M065-100	1000	65	200	0.200	25	28	250	1500	0.07

Half-Bridge Devices

MOSFET CHARACTERISTICS

PART NUMBER	V_{DSS}	Continuous Drain Current I_C @ Tc=25°C	Pulsed Drain Current T_C=25°C	$R_{ds(on)}$@I_D		C_{iss} Typ	t_{rr} max 25°C	Maximum P_D@ T_C=25°C	$R_{\theta JC}$
	Volts	Amps	Amps	Ω	A	nF	ns	Watts	°C/W
SPM2M200-006	60	200	500	0.005	40	9.0	60	460	0.27
SPM2M250-006	60	250	600	0.004	60	14	60	600	0.20
SPM2M150-010	100	150	400	0.013	40	9.0	200	600	0.20
SPM2M200-010	100	200	500	0.009	60	14	200	900	0.13
SPM2M080-030	300	80	250	0.055	40	9.0	200	600	0.20
SPM2M120-030	300	120	350	0.035	60	14	200	900	0.13
SPM2M040-060	600	40	150	0.180	20	9.0	250	600	0.20
SPM2M050-060	600	50	200	0.120	30	14	250	900	0.13
SPM2M025-100	1000	25	75	0.55	10	9.0	250	600	0.20
SPM2M035-100	1000	35	120	0.37	15	14	250	900	0.13

H-Bridge Devices

MOSFET CHARACTERISTICS

PART NUMBER	V_{DSS}	Continuous Drain Current I_C @ Tc=25°C	Pulsed Drain Current T_C=25°C	$R_{ds(on)}$@I_D		C_{iss} Typ	t_{rr} max 25°C	Maximum P_D@ T_C=25°C	$R_{\theta JC}$
	Volts	Amps	Amps	Ω	A	nF	ns	Watts	°C/W
SPM4M130-006	60	130	400	0.006	20	6.0	60	230	0.56
SPM4M130-010	100	130	400	0.011	20	9.0	200	600	0.20
SPM4M080-030	300	80	300	0.053	20	9.0	200	600	0.20
SPM4M040-060	600	40	120	0.180	20	9.0	250	900	0.20
SPM4M024-100	1000	24	70	0.55	15	9.0	250	600	0.20
SPC4M075-006	60	75	220	0.010	20	2.8	60	150	1.0
SPC4M045-010	100	45	130	0.030	20	3.5	170	180	0.70
SPC4M075-010	100	75	300	0.020	20	4.5	200	300	0.40
SPC4M030-020	200	30	120	0.075	15	2.8	360	180	0.70
SPC4M050-020	200	50	200	0.05	15	4.5	200	300	0.40
SPC4M040-030	300	40	150	0.085	20	4.8	200	300	0.40
SPC4M020-060	600	20	80	0.350	10	4.5	250	300	0.40
SPC4M012-100	1000	12	45	1.00	6.0	4.0	250	300	0.40

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Dual H-Bridge Devices

MOSFET CHARACTERISTICS

PART NUMBER	V_{DSS}	Continuous Drain Current I_C @ Tc=25°C	Pulsed Drain Current T_C=25°C	$R_{ds(on)}$@I_D		C_{iss} Typ	t_{rr} max 25°C	Maximum P_D@ T_C=25°C	$R_{\theta JC}$
	Volts	Amps	Amps	Ω	A	nF	ns	Watts	°C/W
SPC8M075-006	60	75	220	0.010	20	2.8	60	150	1.0
SPC8M045-010	100	45	130	0.030	20	3.5	170	180	0.70
SPC8M030-020	200	30	120	0.075	15	2.8	360	180	0.70
SPC8M011-060	600	11	45	0.55	5.0	2.7	250	180	0.40

DIODE CHARACTERISTICS

PART NUMBER	Current Rating I_{FavM} @ D=0.5, Tc		V_F @ I_F T_J=25°C Typ		t_{rr} @ -di/dt=100A/µsec, T_J=25°C Typ	Thermal Resistance $R_{\theta JC}$
	Amps	°C	Volts	Amps	ns	°C/W
SPC8M075-006	25	80	1.05	25	30	1.6
SPC8M045-010	25	80	1.05	25	30	1.6
SPC8M030-020	25	80	1.05	25	30	1.6
SPC8M011-060	15	80	1.6	15	50	1.6

Three-Phase Bridge Devices

MOSFET CHARACTERISTICS

PART NUMBER	V_{DSS}	Continuous Drain Current I_C @ Tc=25°C	Pulsed Drain Current T_C=25°C	$R_{ds(on)}$@I_D		C_{iss} Typ	t_{rr} max 25°C	Maximum P_D@ T_C=25°C	$R_{\theta JC}$
	Volts	Amps	Amps	Ω	A	nF	ns	Watts	°C/W
SPC6M075-006	60	75	220	0.010	20	2.8	60	150	1.0
SPC6M045-010	100	45	130	0.030	20	3.5	170	180	0.70
SPC6M030-020	200	30	120	0.075	15	2.8	360	180	0.70
SPC6M011-060	600	11	45	0.55	5.0.	2.7	250	180	0.70
SPC6M006-060	1000	6.0	24	2.0	3.0	2.6	250	180	0.70

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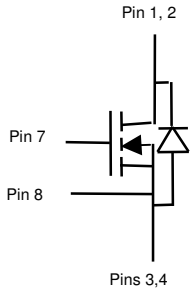
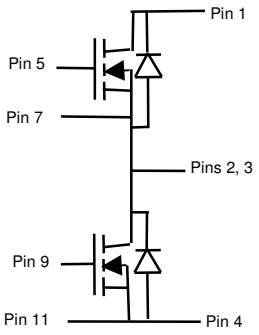
SCHEMATIC DIAGRAMS

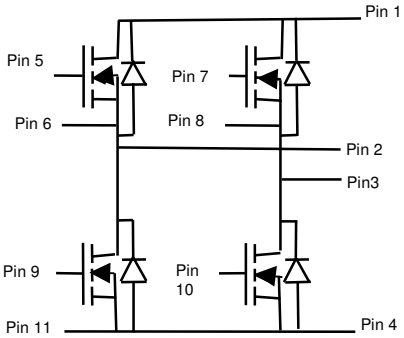
(for SPMxMxxx-xxx)



Schematic for
SPM1Mxxx-xxx



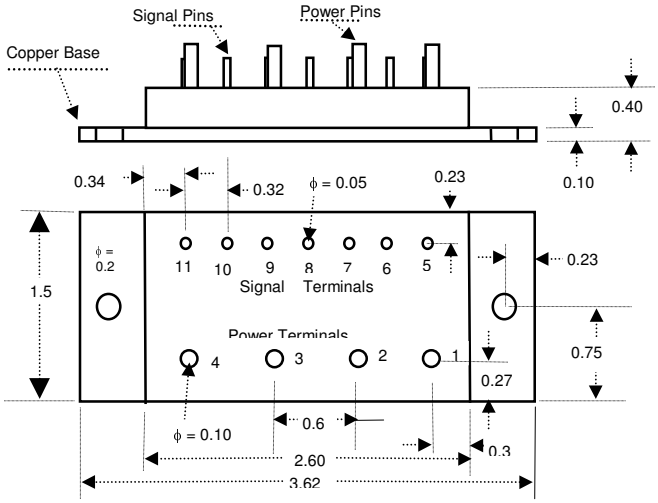
Schematic for
SPM2Mxxx-xxx



Schematic for
SPM4Mxxx-xxx

PACKAGE OUTLINE

(for SPM1Mxxx-xxx, SPM2Mxxx-xxx, SPM4Mxxx-xxx)
(All dimensions are in inches)



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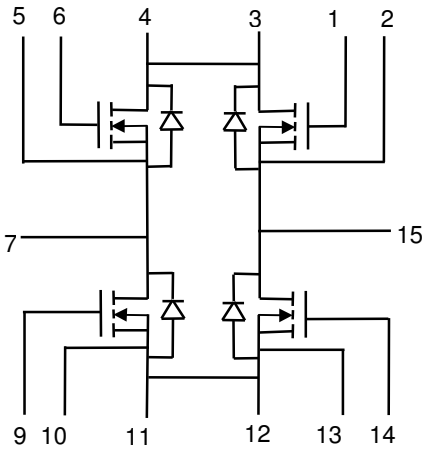
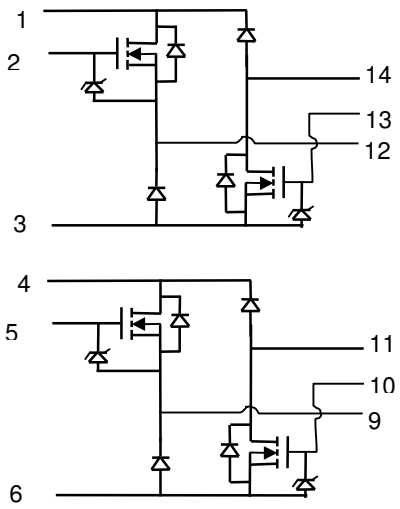
SCHEMATIC DIAGRAM

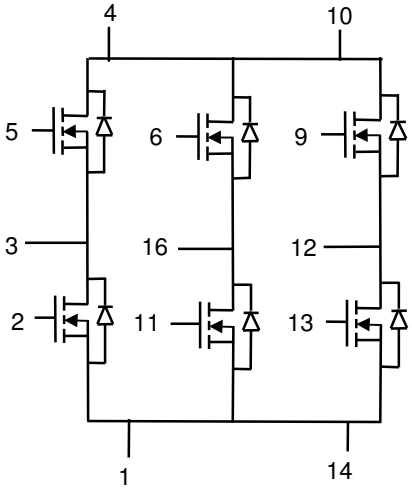
(for SPCXMxxx-xxx)



Schematic for SPC4Mxxx-xxx



Schematic for SPC8Mxxx-xxx

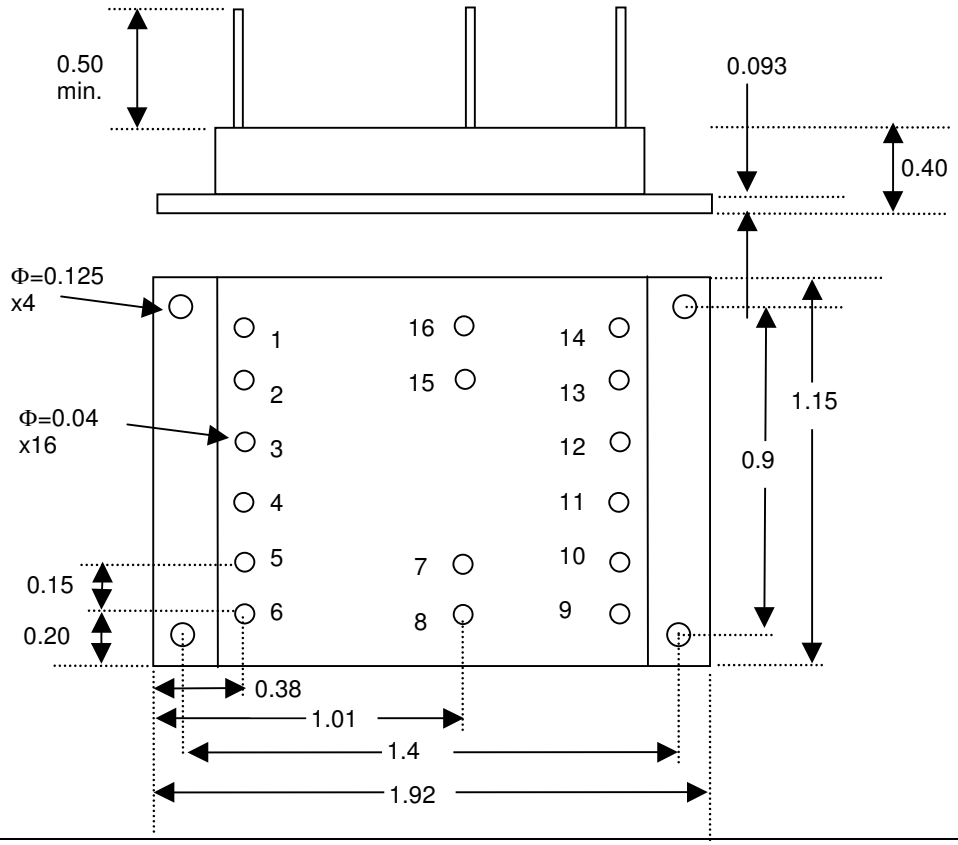


Schematic for SPC6Mxxx-xxx

PACKAGE OUTLINE

(for SPC4Mxxx-xxx, SPC8Mxxx-xxx, SPC6Mxxx-xxx)

(All dimensions are in inches)



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