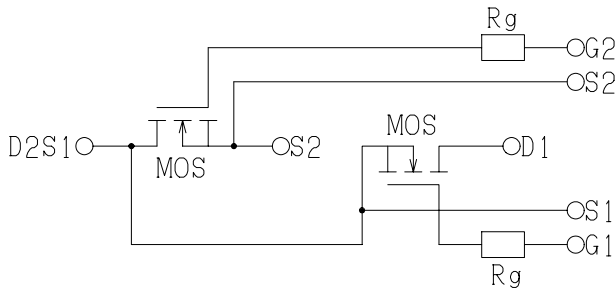


MOSFET Module Dual

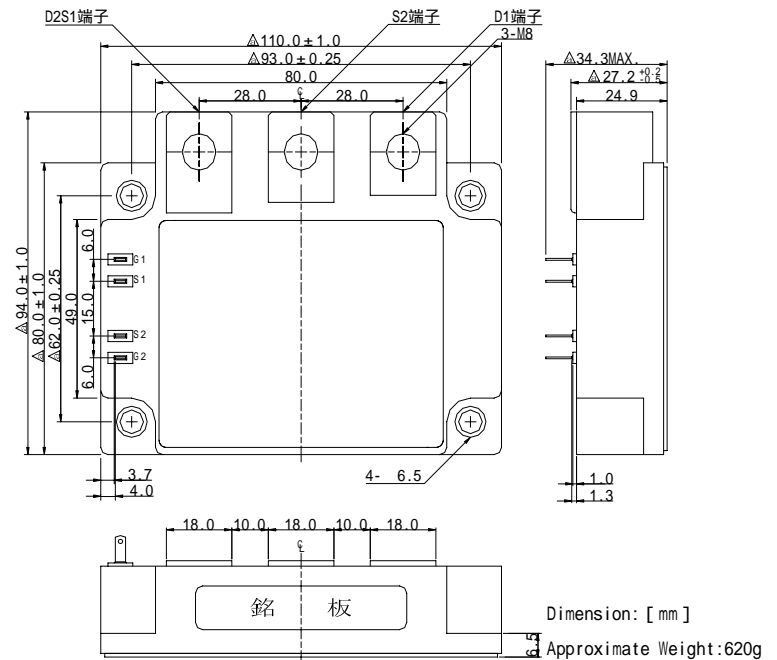
500A, 100V

PDM5001

回路図 : CIRCUIT



外形寸法図 : OUTLINE DRAWING



最大定格 : MAXIMUM RATINGS (T<sub>c</sub>=25)

Item	Symbol	Test Condition	Rated Value	Unit
ドレイン・ソース間電圧 Drain-Source Voltage	V <sub>DS</sub>	V <sub>GS</sub> = 0V	100	V
ゲート・ソース間電圧 Gate-Source Voltage	V <sub>GS</sub>		±20	V
ドレイン電流 Drain Current	I <sub>D</sub>	Duty=50%	500	A
		D C 端子温度=80	390	
パルスドレイン電流 Pulsed Drain Current	I <sub>DM</sub>		1,000	A
全損失 Total Power Dissipation	P <sub>D</sub>		1,250	W
動作接合温度 Junction Temperature Range	T <sub>j</sub>		-40 ~ +150	
保存温度 Storage Temperature Range	T <sub>stg</sub>		-40 ~ +125	
絶縁耐圧 Isolation Voltage	V <sub>ISO</sub>	Terminal to Base AC,1minute	2,000	V <sub>(RMS)</sub>
締め付けトルク Mounting Torque	Module Base to Heatsink		3	N・m
	Busbar to Main Terminal		3	

MOS-FET電気的特性 : MOS-FET ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
ドレイン遮断電流 Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 100V, V <sub>GS</sub> = 0V	-	-	1.0	mA
ゲート漏れ電流 Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V	-	-	0.5	mA
ゲートしきい値電圧 Gate-Source Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 16mA	1.0	-	2.5	V
ドレイン・ソース間わ抵抗(MOSFET部) Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 500A	-	0.5	0.56	m
ドレイン・ソース間わ電圧 Drain-Source On-Voltage	V <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 500A (端子間)	-	0.25 (0.55)	0.30 (0.62)	V
順伝達コダクタンス Forward Transconductance	G <sub>fs</sub>	V <sub>DS</sub> = 15V, I <sub>D</sub> = 500A	-	135	-	S
入力容量 Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> = 0V V <sub>DS</sub> = 10V f = 1MHz	-	155	-	nF
出力容量 Output Capacitance	C <sub>oss</sub>		-	12	-	nF
帰還容量 Reverse Transfer Capacitance	C <sub>rss</sub>		-	5.3	-	nF
スイッチング時間 Switching Time	上昇時間 Rise Time	V <sub>DD</sub> = 50V I <sub>D</sub> = 250A R <sub>G</sub> = 1.0 V <sub>GS</sub> = -5V, +10V	-	350	-	ns
	ターンオン遅延時間 Turn-on Delay Time		-	150	-	
	下降時間 Fall Time		-	60	-	
	ターンオフ遅延時間 Turn-off Delay Time		-	450	-	

内蔵逆方向ダイオードの定格と特性 : Source-Drain DIODE RATINGS & CHARACTERISTICS (T<sub>c</sub>=25)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
ソース電流 Continuous Source Current	I <sub>S</sub>	Duty=50%	-	-	500	A
		D C 端子温度=80	-	-	390	
パルスソース電流 Pulsed Source Current	I <sub>SM</sub>		-	-	1,000	A
ダイオード順電圧 Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> = 500A	-	0.85	-	V
逆回復時間 Reverse Recovery Time	t <sub>rr</sub>	I <sub>S</sub> = 500A, -dis/dt = 1000A/μs	-	70	-	ns

熱的特性 : THERMAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
接合・ケース間熱抵抗 Thermal Impedance, Junction to Case	R <sub>th(j-c)</sub>	MOS-FET	-	-	0.10	/W

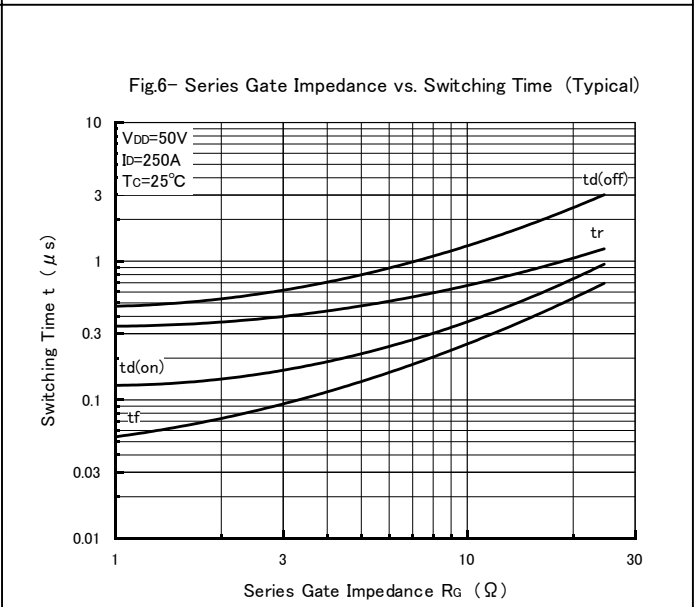
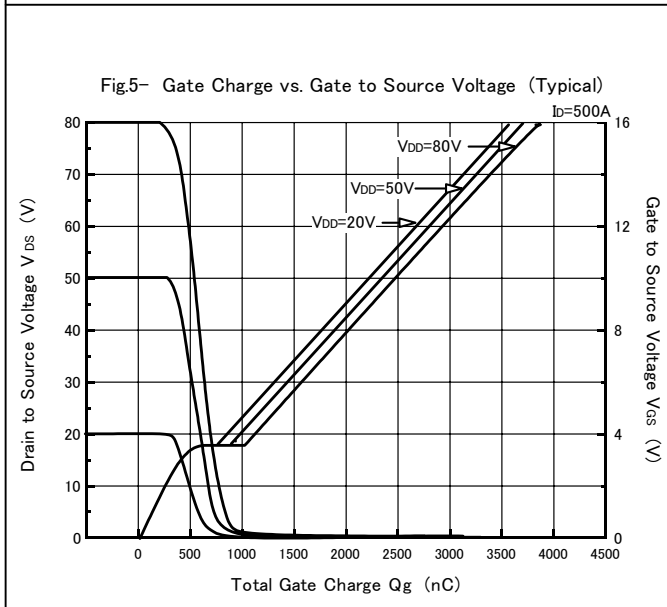
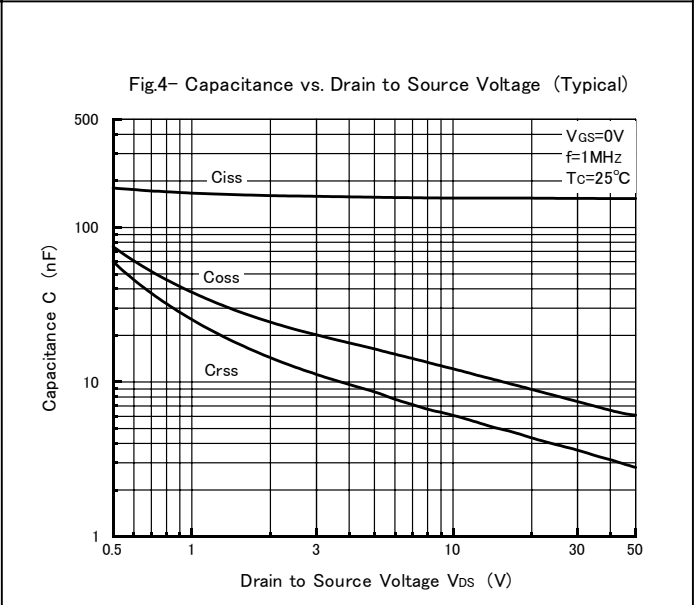
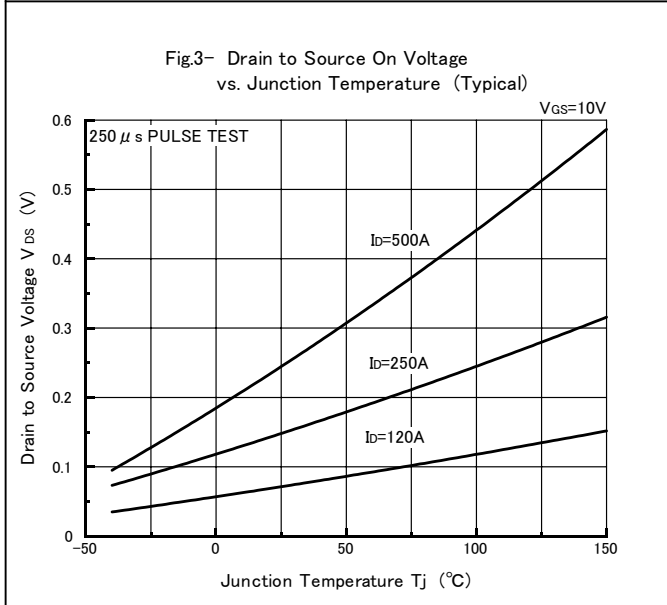
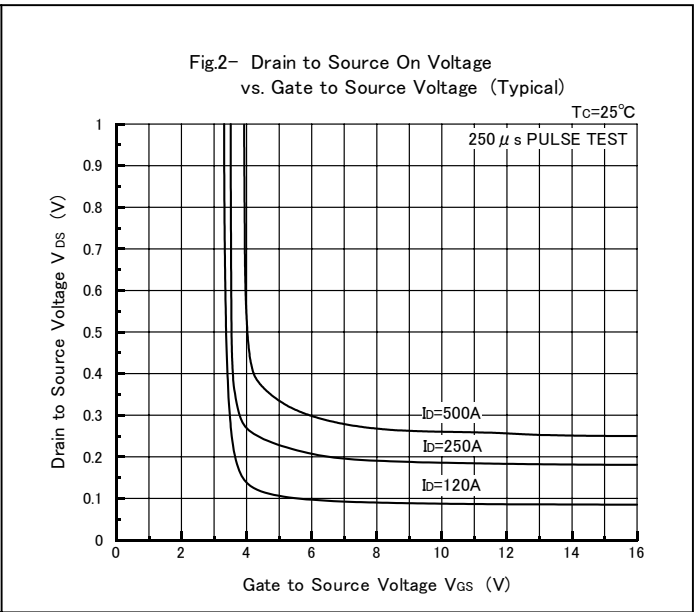
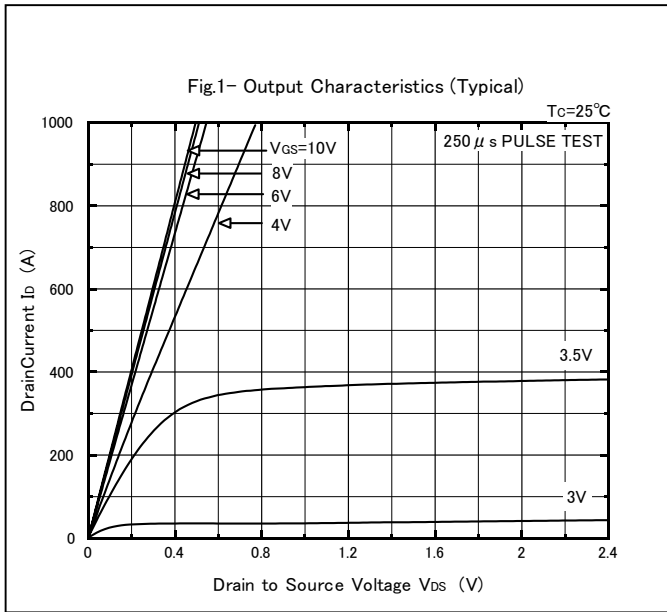


Fig.7- Drain Current vs. Switching Time (Typical)

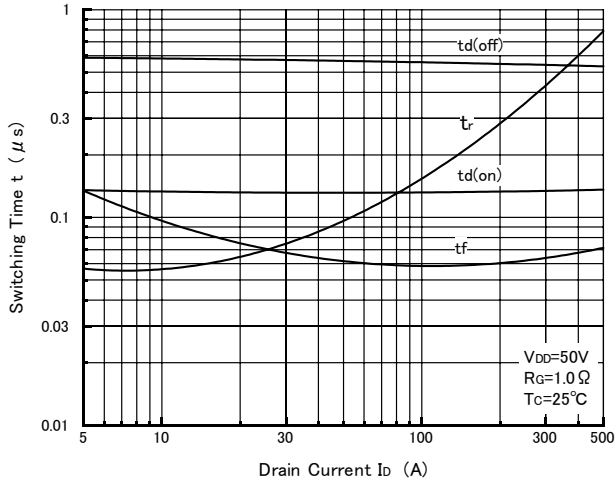


Fig.8- Source to Drain Diode Forward Characteristics (Typical)

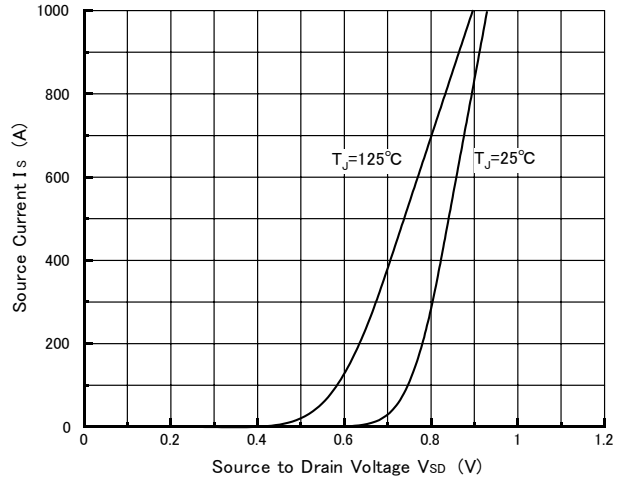


Fig.9- Reverse Recovery Characteristics (Typical)

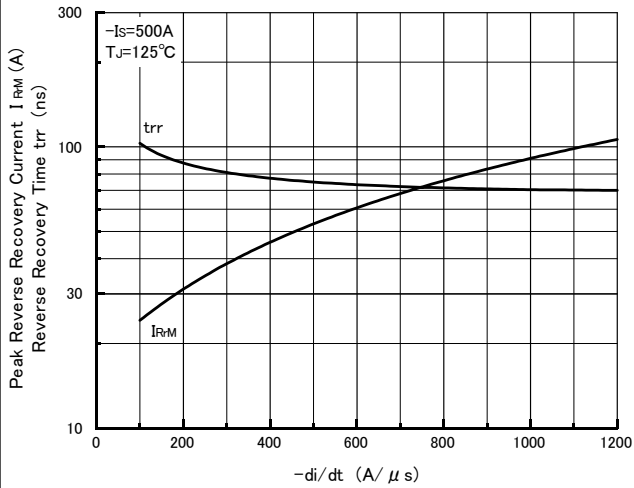


Fig.10- Maximum Transient Thermal Impedance

