

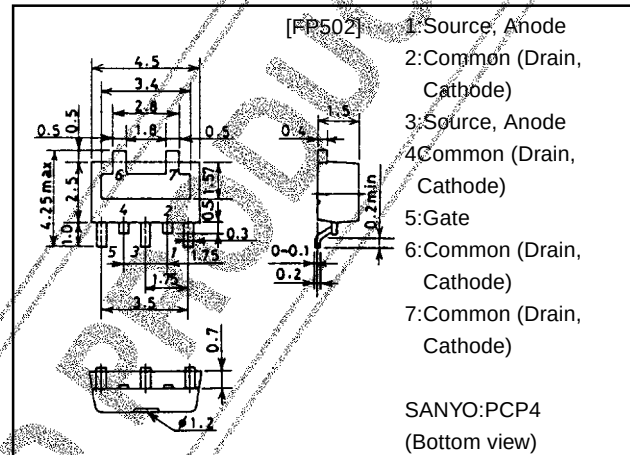
SANYO**FP502****N-Channel Silicon MOSFET
Silicon Schottky Barrier Diode****DC-DC Converter Applications****Features**

- Composite type with a high-speed N-channel MOSFET and a low-forward voltage Schottky barrier diode contained in the PCP4 package, saving the mount space greatly.

Package Dimensions

unit:mm

2132

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Allowable Power Dissipation	P_D	$T_c=25^\circ\text{C}$, 1 unit	3.5	W
	P_D	Mounted on ceramic board (250mm ² ×0.8mm) 1 unit	1.5	W
Storage Temperature	Tstg		-55 to +150	°C
[MOS block]				
Drain-to-Source Voltage	V_{DS}		11	V
Gate-to-Source Voltage	V_{GS}		±10	V
Drain Current (DC)	I_D		2	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	8	A
Channel Temperature	T_{ch}		150	°C
[Diode block]				
Average Rectified Current	I_O		500	mA

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditons	Ratings			Unit
			min	typ	max	
[MOS block]						
D-S Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0	11			V
Zero-Gate Voltage Drain Current	IDSS	VDS=10.4V, VGS=0			400	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.0		4.0	V
Forward Transfer Admittance	Yfs	VDS=10V, ID=1A	1.2	2.2		S
Static Drain-to-Source ON-State Resistance	RDS(on)	ID=1A, VGS=10V		140	200	mΩ
	RDS(on)	ID=500mA, VGS=4V		200	320	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		150		pF
Output Capacitance	Coss	VDS=10V, f=1NHZ		200		pF
Reverse Transfer Capacitance	Crss	VDS=10V, f=1MHz		45		pF

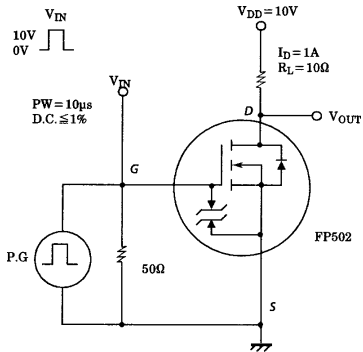
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FP502

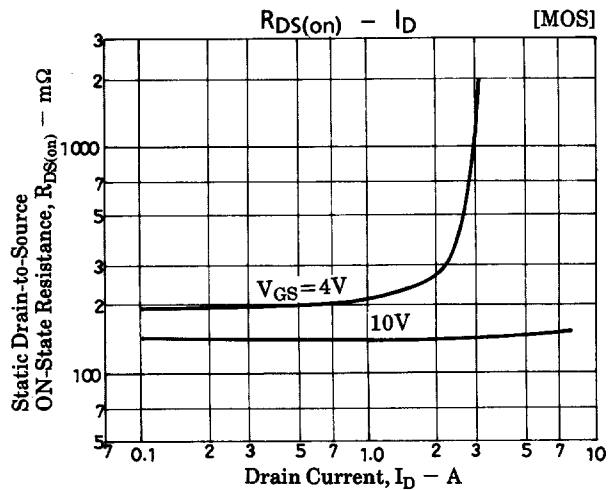
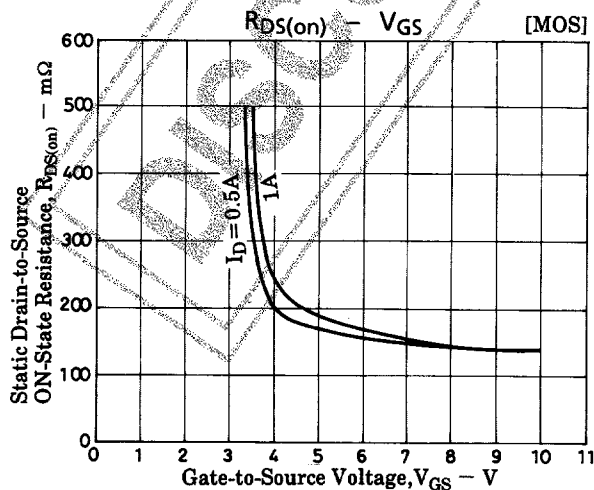
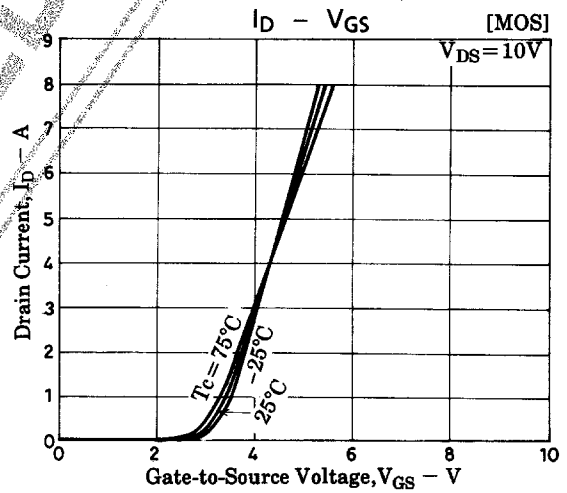
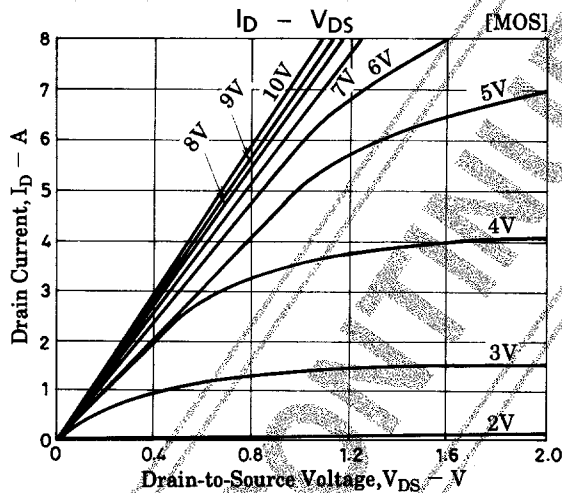
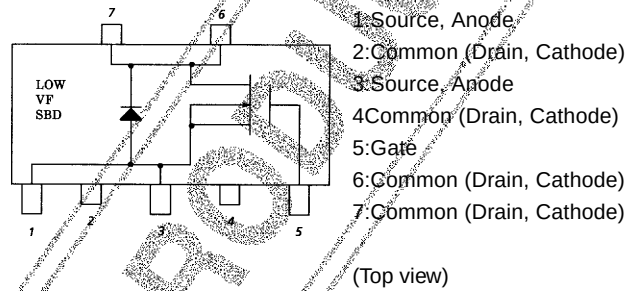
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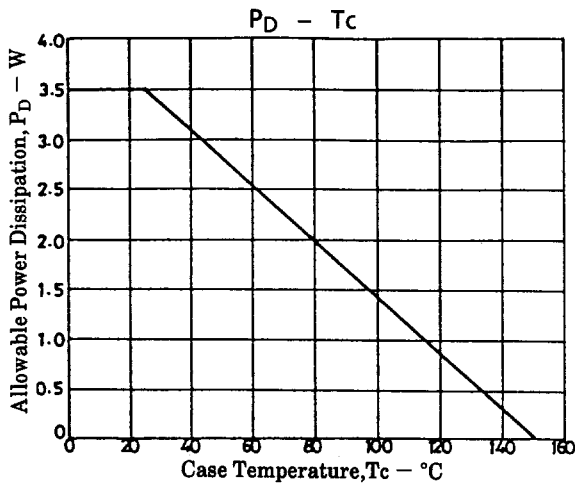
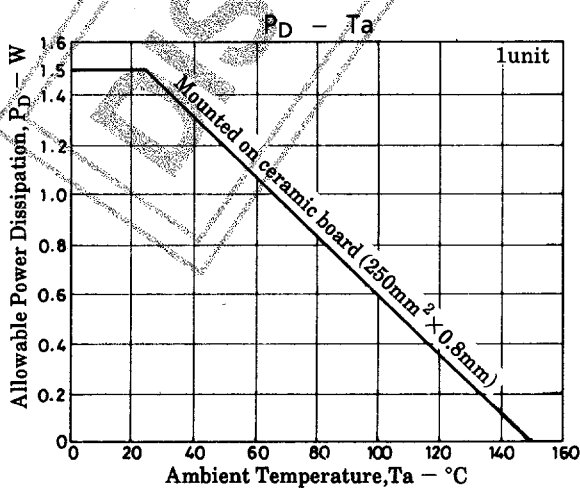
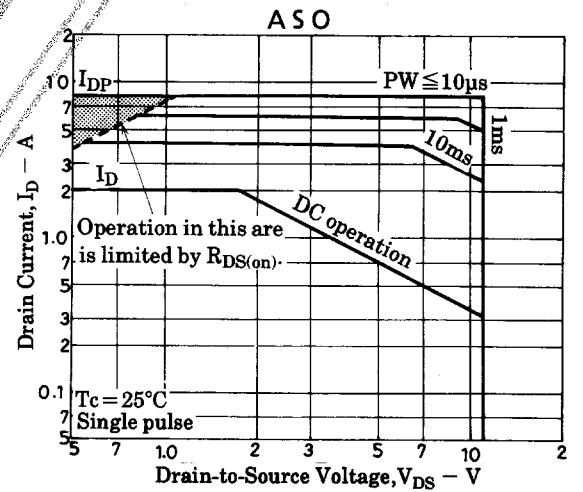
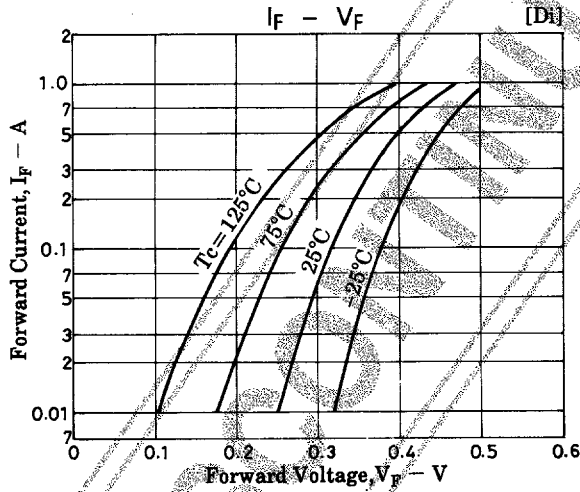
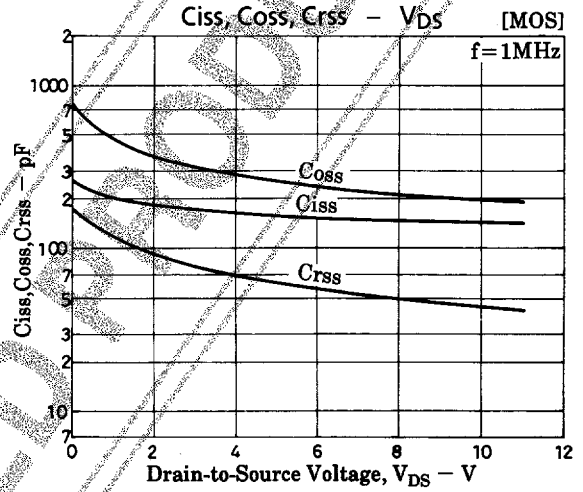
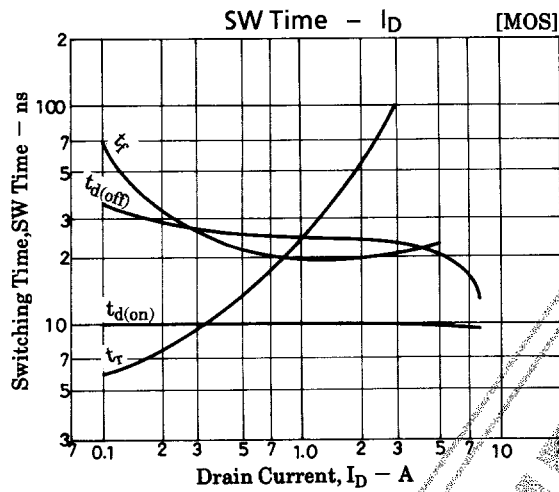
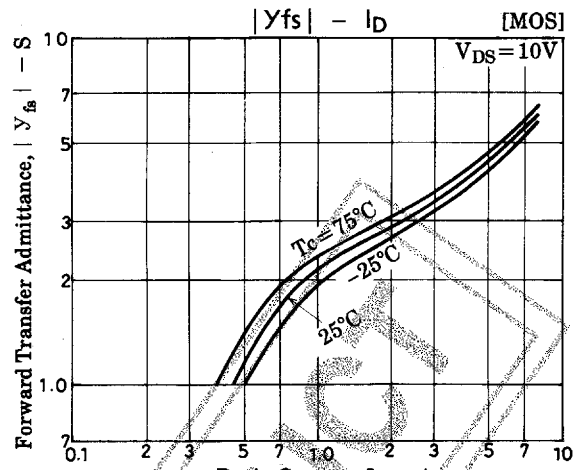
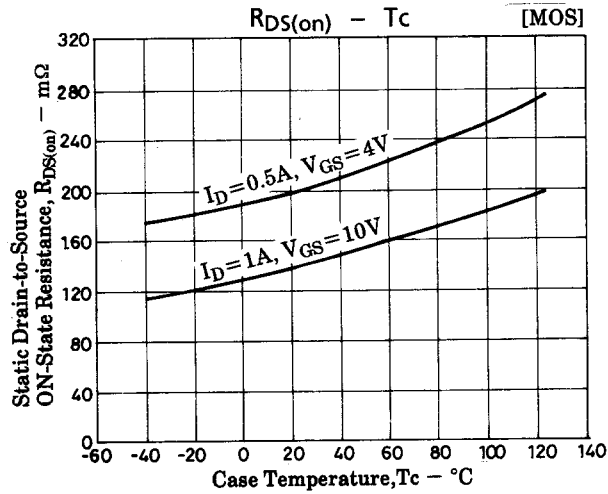
Parameter	Symbol	Conditons	Ratings			Unit
			min	typ	max	
[MOS block]						
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		10		ns
Rise Time	t _r	See specified Test Circuit.		25		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		25		ns
Fall Time	t _f	See specified Test Circuit.		20		ns
[Diode block]						
Forward Voltage	V _F	I _F =500mA		0.4	0.45	V
Reverse Recovery Time	t _{rr}	I _F =500mA, di/dt=50A/μs		20	30	ns

Switching Time Test Circuit



Electrical Connection





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