

Ordering number:EN4892



FX852

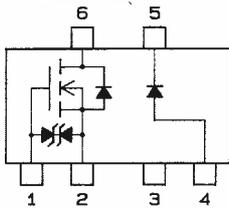
MOSFET:N-Channel Silicon MOSFET
SBD:Schottky Barrier Diode

DC-DC Converter Applications

Features

- Composite type composed of a low ON-resistance N-channel MOSFET for ultrahigh-speed switching and low-voltage driving and a fast-recovery, low forward-voltage Schottky barrier diode. Facilitates high-density mounting.
- The FX852 is formed with 2 chips, one being equivalent to the 2SK1467 and the other the SB07-03P, placed in one package.

Electrical Connection



- 1:Gate
- 2:Source
- 3:No connection
- 4:Anode
- 5:Cathode
- 6:Drain

(Top view)

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
[MOSFET]				
Drain-to-Source Voltage	V_{DSS}		30	V
Gate-to-Source Voltage	V_{GSS}		± 15	V
Drain Current (DC)	I_D		2	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	8	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	6	W
	P_D	Mounted on ceramic board (750mm ² ×0.8mm)	1.5	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C
[SBD]				
Repetitive Peak Reverse Voltage	V_{RRM}		30	V
Non-repetitive Peak Reverse Surge Voltage	V_{RSM}		35	V
Average Rectified Current	I_O		700	mA
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	5	A
Junction Temperature	T_j		-55 to +125	°C
Storage Temperature	T_{stg}		-55 to +150	°C

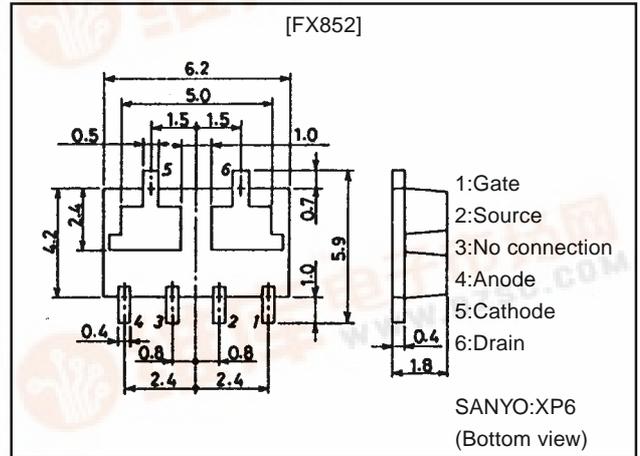
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Package Dimensions

unit:mm

2119



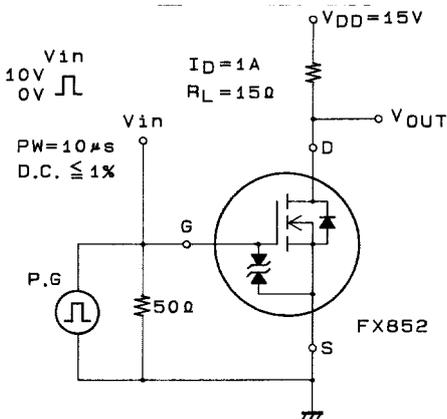
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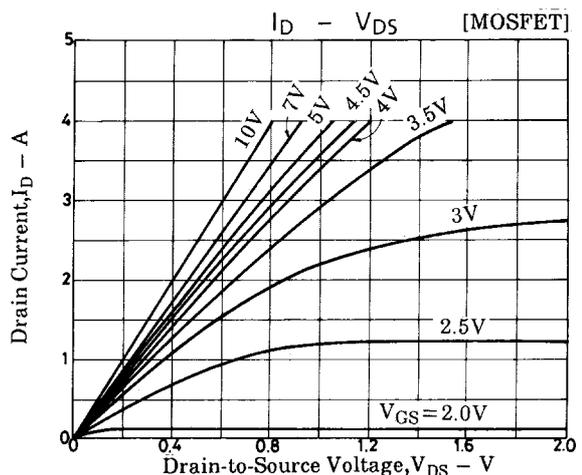
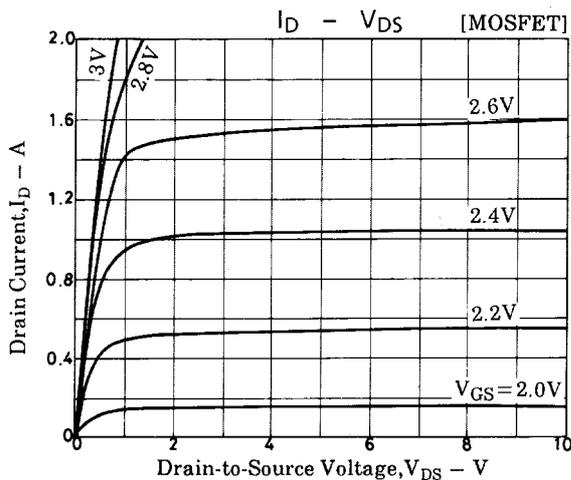
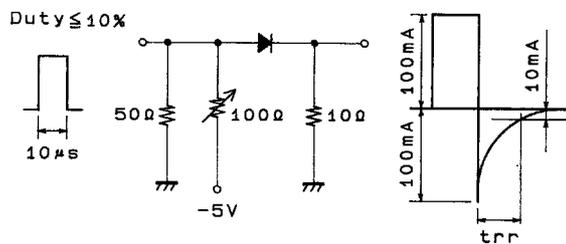
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[MOSFET]						
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0$			100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.0		2.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS}=10V, I_D=1A$	1.2	2.0		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D=1A, V_{GS}=10V$		0.18	0.25	Ω
	$R_{DS(on)}$	$I_D=1A, V_{GS}=4V$		0.25	0.38	Ω
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		170		pF
Output Capacitance	C_{oss}	$V_{DS}=10V, f=1MHz$		100		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, f=1MHz$		30		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		7		ns
Rise Time	t_r	See specified Test Circuit		11		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		35		ns
Fall Time	t_f	See specified Test Circuit		25		ns
Diode Forward Voltage	V_{SD}	$I_S=2A, V_{GS}=0$		1.0		V
[SBD]						
Reverse Voltage	V_R	$I_R=300\mu A$	30			V
Forward Voltage	V_F	$I_F=700mA$			0.55	V
Reverse Current	I_R	$V_R=15V$			80	μA
Interterminal Capacitance	C	$V_R=10V, f=1MHz$ Cycle		26		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=100mA$, See specified Test Circuit			10	ns
Thermal Resistance	R_{thj-a}	Mounted on ceramic board (750mm ² ×0.8mm)		100		°C/W

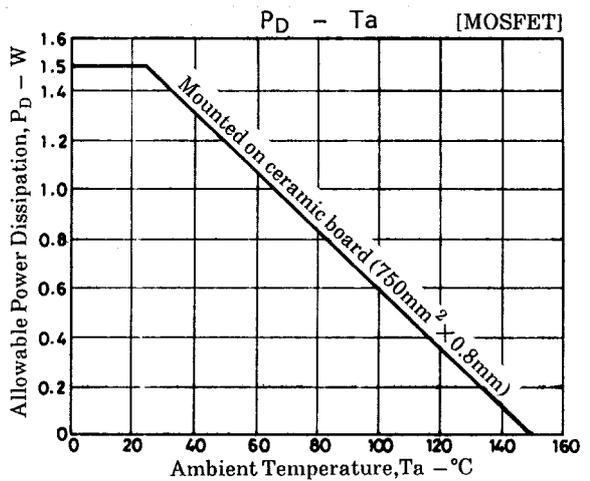
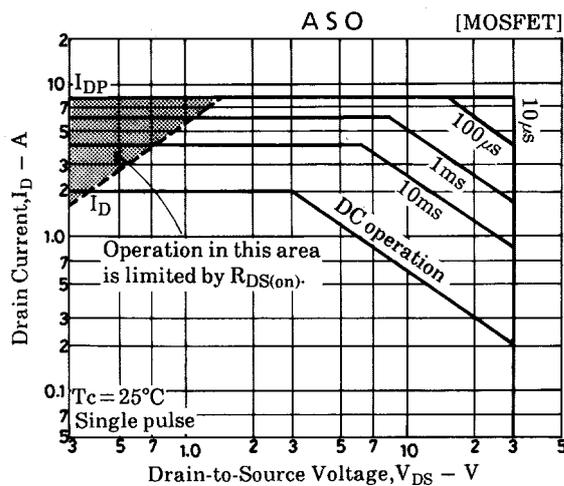
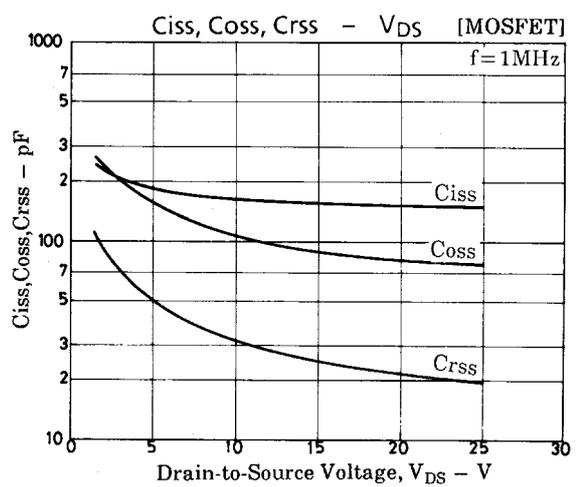
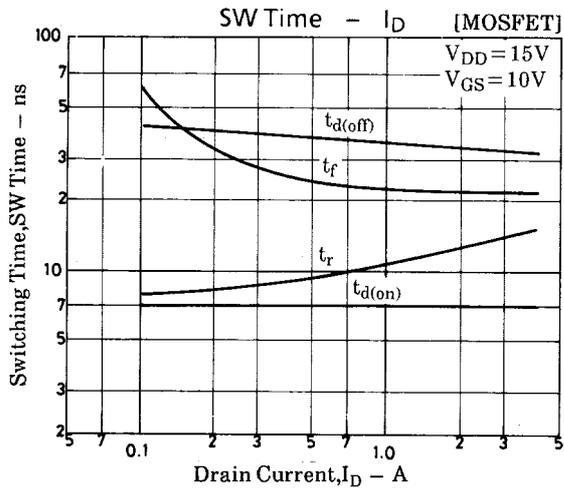
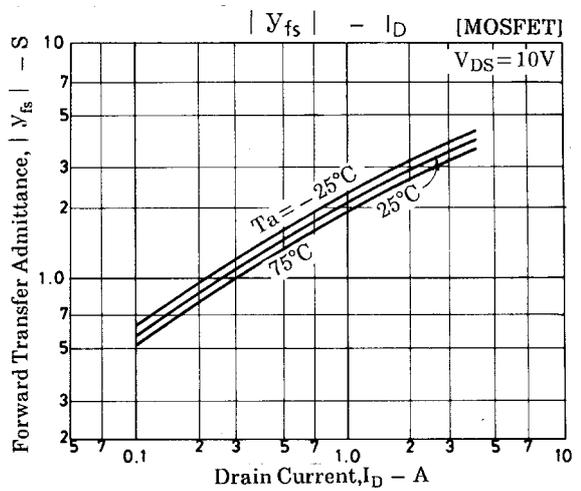
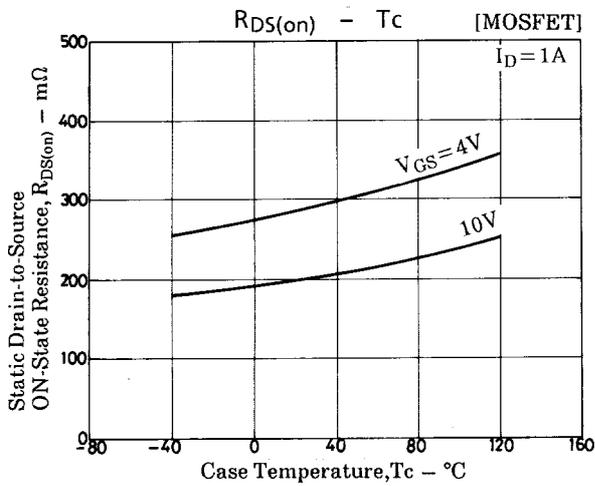
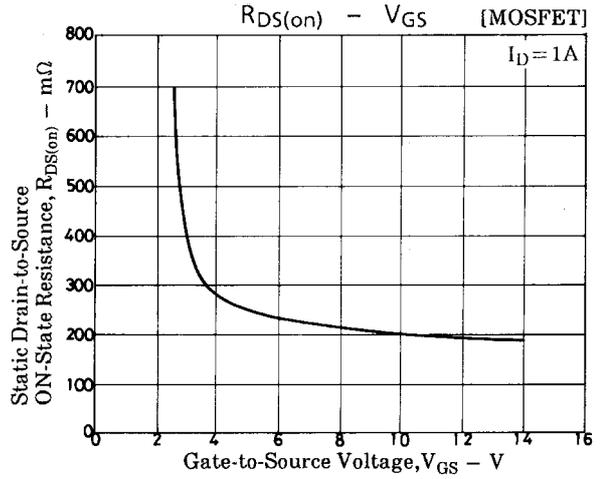
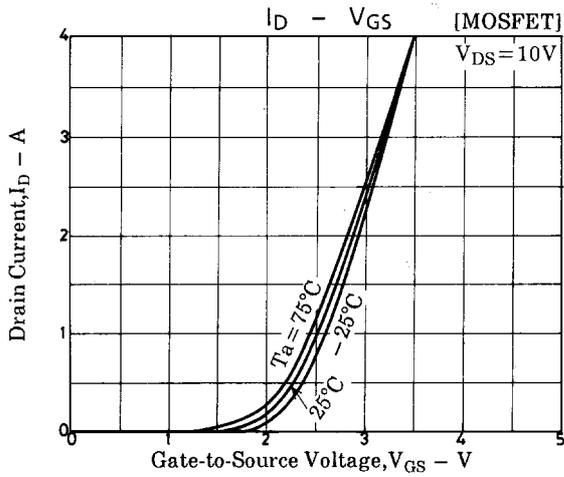
Switching Time Test Circuit [MOSFET]



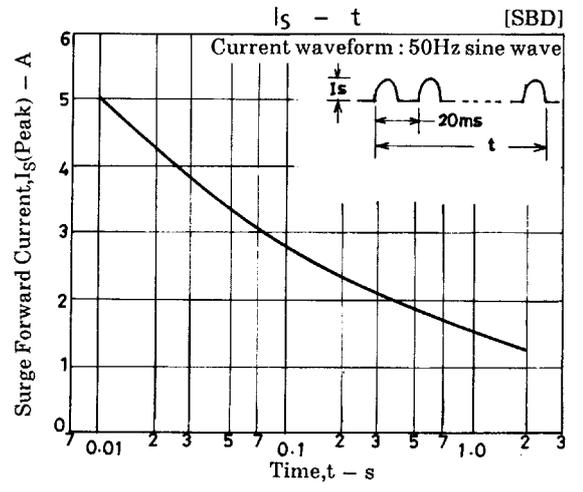
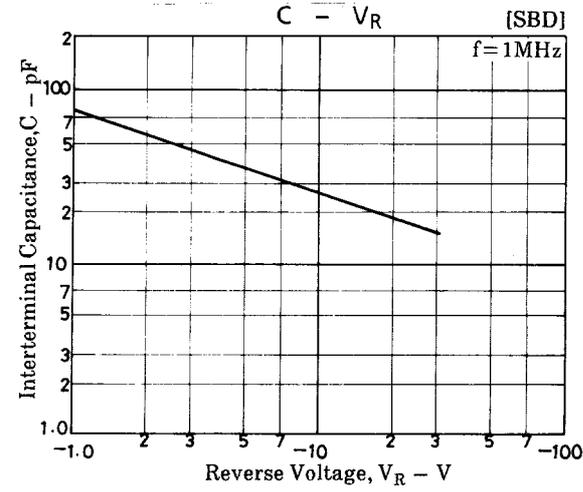
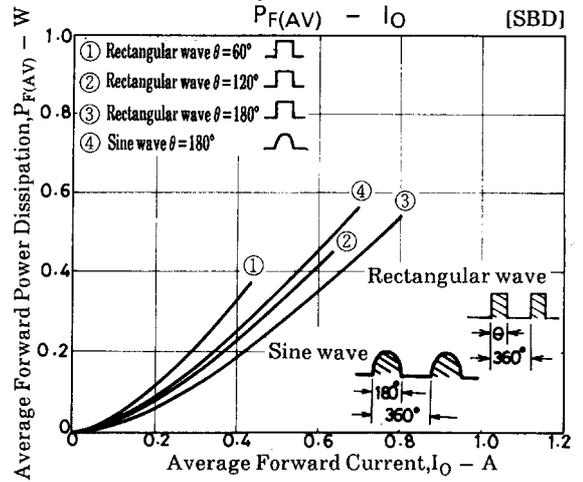
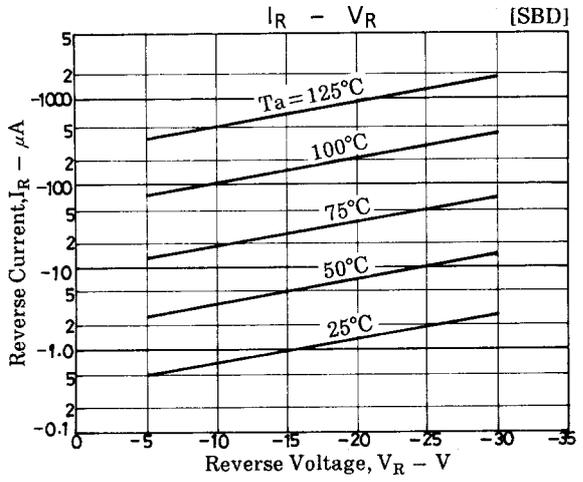
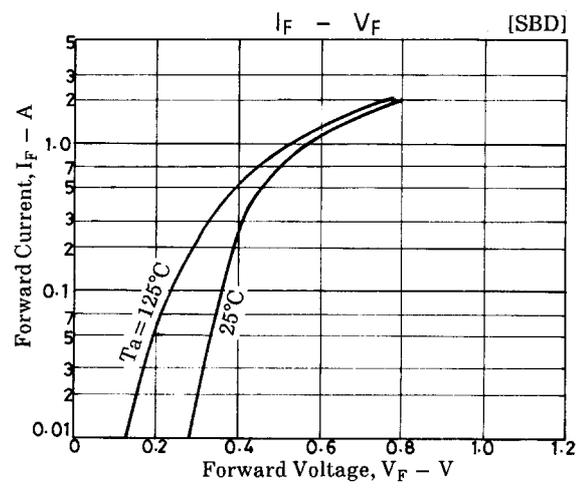
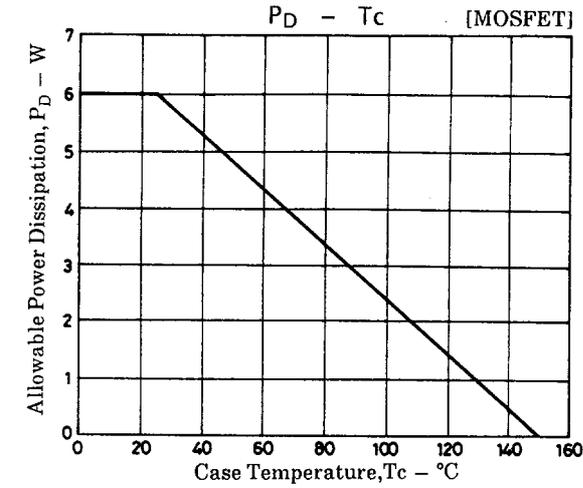
Trr Test Circuit [SBD]



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