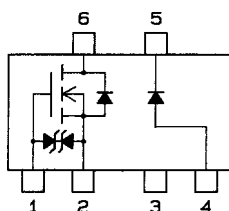


SANYO**FX855**MOSFET:N-Channel Silicon MOSFET
SBD:Schottky Barrier Diode**DC-DC Converter Applications****Features**

- 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 FX855 is formed with 2 chips, one being equivalent to the 2SK1470 and the other the SB05-09, placed in one package.

Electrical Connection

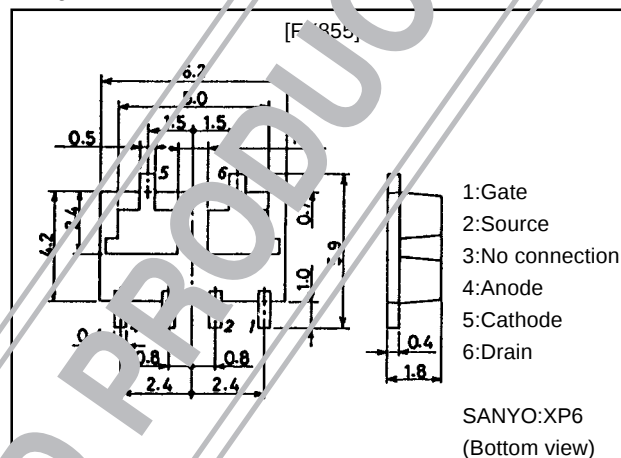
- 1:Gate
2:Source
3:No connection
4:Anode
5:Cathode
6:Drain

(Top view)

Package Dimensions

unit:mm

2119

**Specifications**Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
[MOSFET]				
Drain-to-Source Voltage	V_{DS}		60	V
Gate-to-Source Voltage	V_{GS}		± 15	V
Drain Current (DC)	I_D		2	A
Drain Current (Pulse)	I_{DP}	$P \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	8	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ\text{C}$	6	W
	P_D	Mounted on ceramic board (750mm ² × 0.8mm)	1.5	W
Channel Temperature			150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$
[SBD]				
Repetitive Peak Reverse Voltage	V_{RRM}		90	V
Non-repetitive Peak Reverse Surge voltage	V_{FSM}		95	V
Average Rectified Current	I_O		500	mA
Surge Forward Current	I_{FSM}	50Hz sine wave, 1cycle	10	A
Junction Temperature	T_j		-55 to +125	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +125	$^\circ\text{C}$

• Marking:855

Continued on next page.

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TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

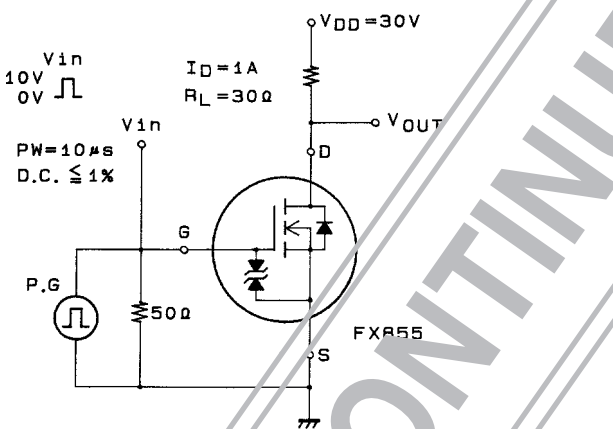
52098HA (KT)/71095TS (KOTO) TA-0115 No.4895-1/4

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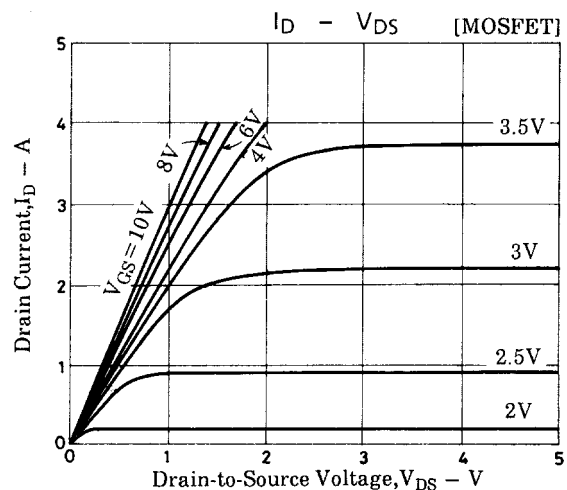
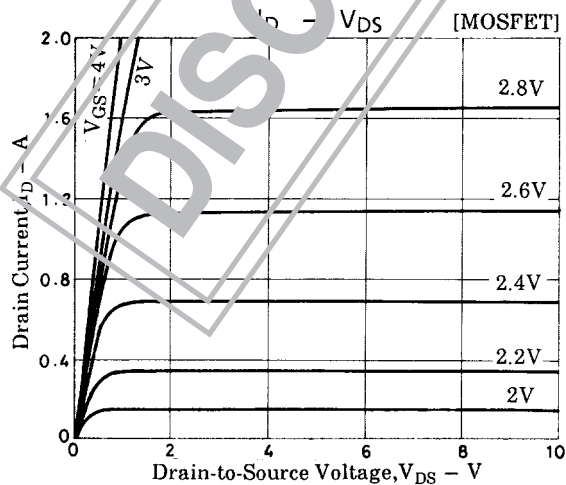
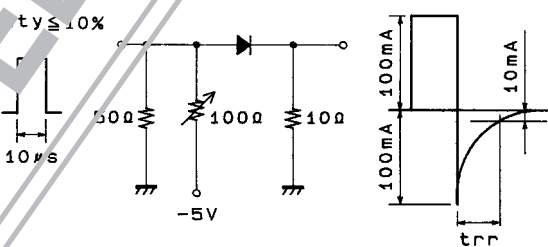
Electrical Characteristics at $T_a = 25^\circ\text{C}$

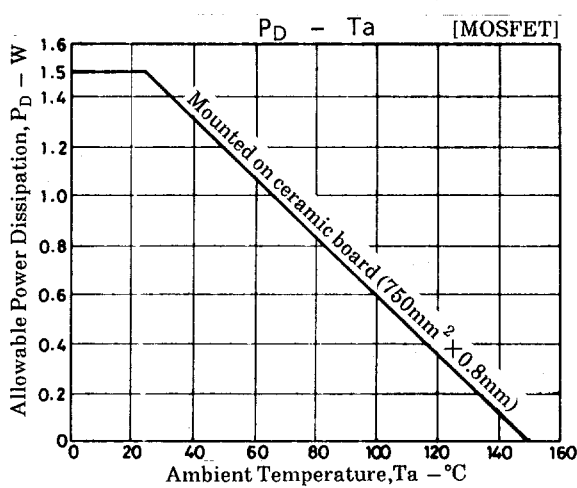
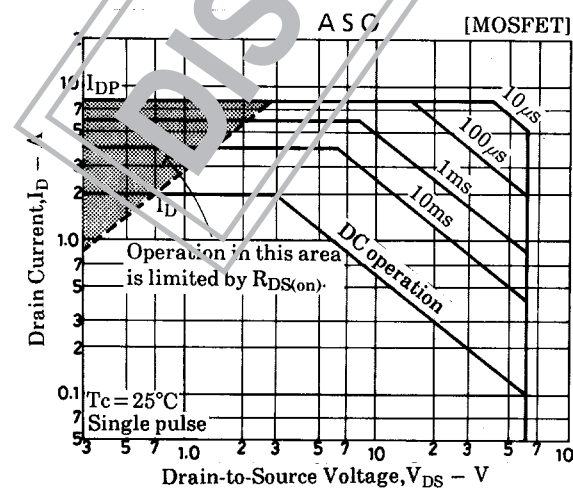
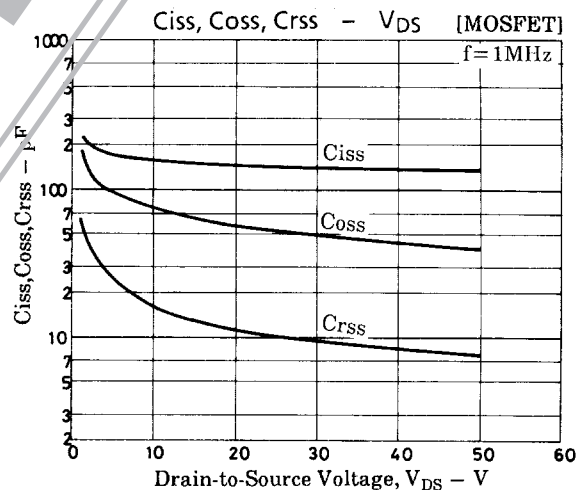
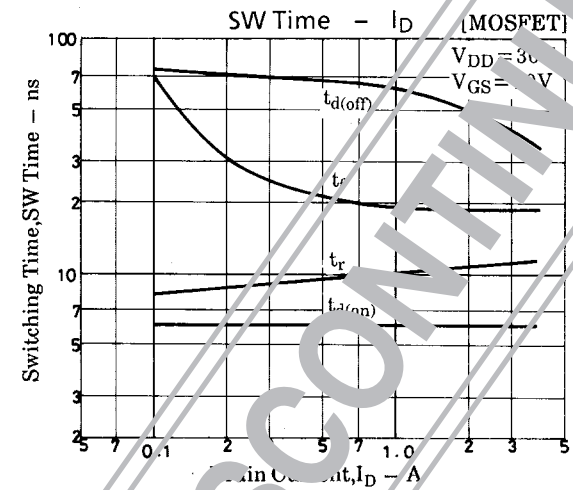
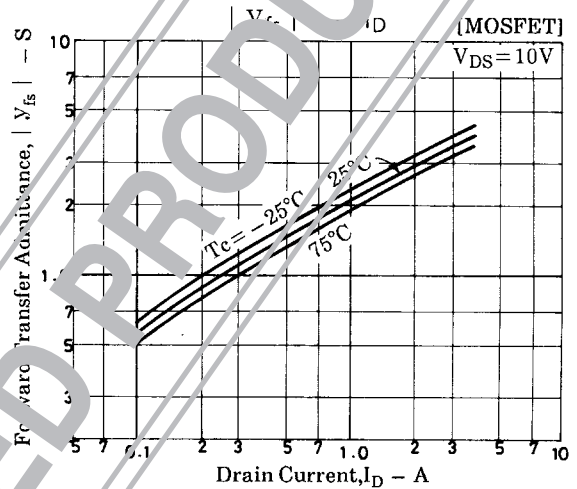
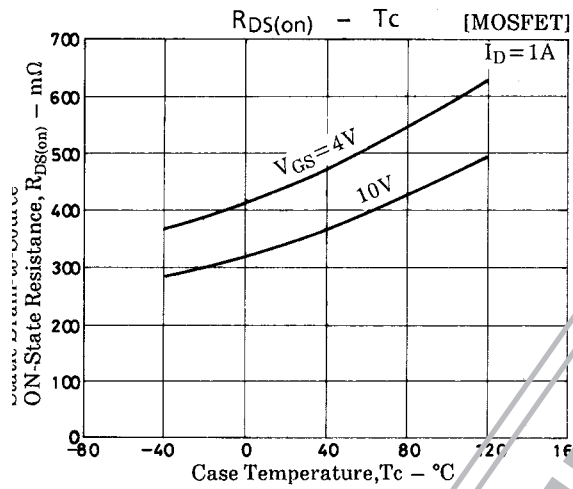
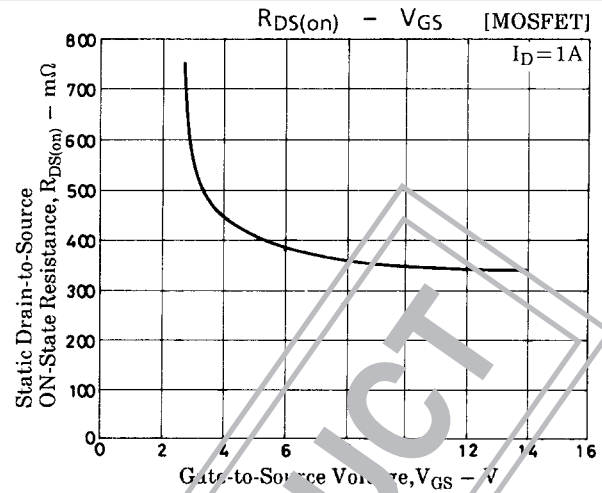
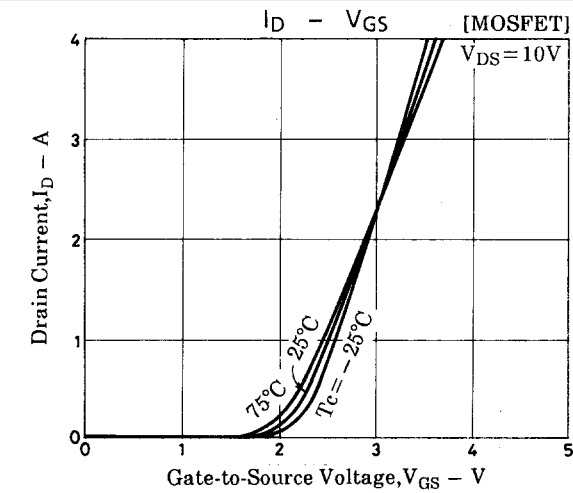
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[MOSFET]						
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0$	60			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{V}$, $V_{GS}=0$			100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12\text{V}$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	1.0		2.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS}=10\text{V}$, $I_D=1\text{A}$	1	2.0		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D=1\text{mA}$, $V_{GS}=10\text{V}$		0.5	0.45	Ω
	$R_{DS(on)}$	$I_D=1\text{A}$, $V_{GS}=4\text{V}$		0.45	0.6	Ω
Input Capacitance	C_{iss}	$V_{DS}=10\text{V}$, $f=1\text{MHz}$		150		pF
Output Capacitance	C_{oss}	$V_{DS}=10\text{V}$, $f=1\text{MHz}$		60		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10\text{V}$, $f=1\text{MHz}$		12		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		5		ns
Rise Time	t_r	See specified Test Circuit		10		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		60		ns
Fall Time	t_f	See specified Test Circuit		20		ns
Diode Forward Voltage	V_{SD}	$I_S=2\text{A}$, $V_{GS}=0$		1.0		V
[SBD]						
Reverse Voltage	V_R	$I_R=300\mu\text{A}$	90			V
Forward Voltage	V_F	$I_F=500\text{mA}$			0.7	V
Reverse Current	I_R	$V_R=45\text{V}$			80	μA
Interterminal Capacitance	C	$V_R=10\text{V}$, $f=1\text{MHz}$ Cycle		34		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=100\text{mA}$, See specified Test Circuit			10	ns
Thermal Resistance	R_{thj-a}	Mounted on ceramic board (750mm ² ×0.8mm)		85		$^{\circ}\text{C/W}$

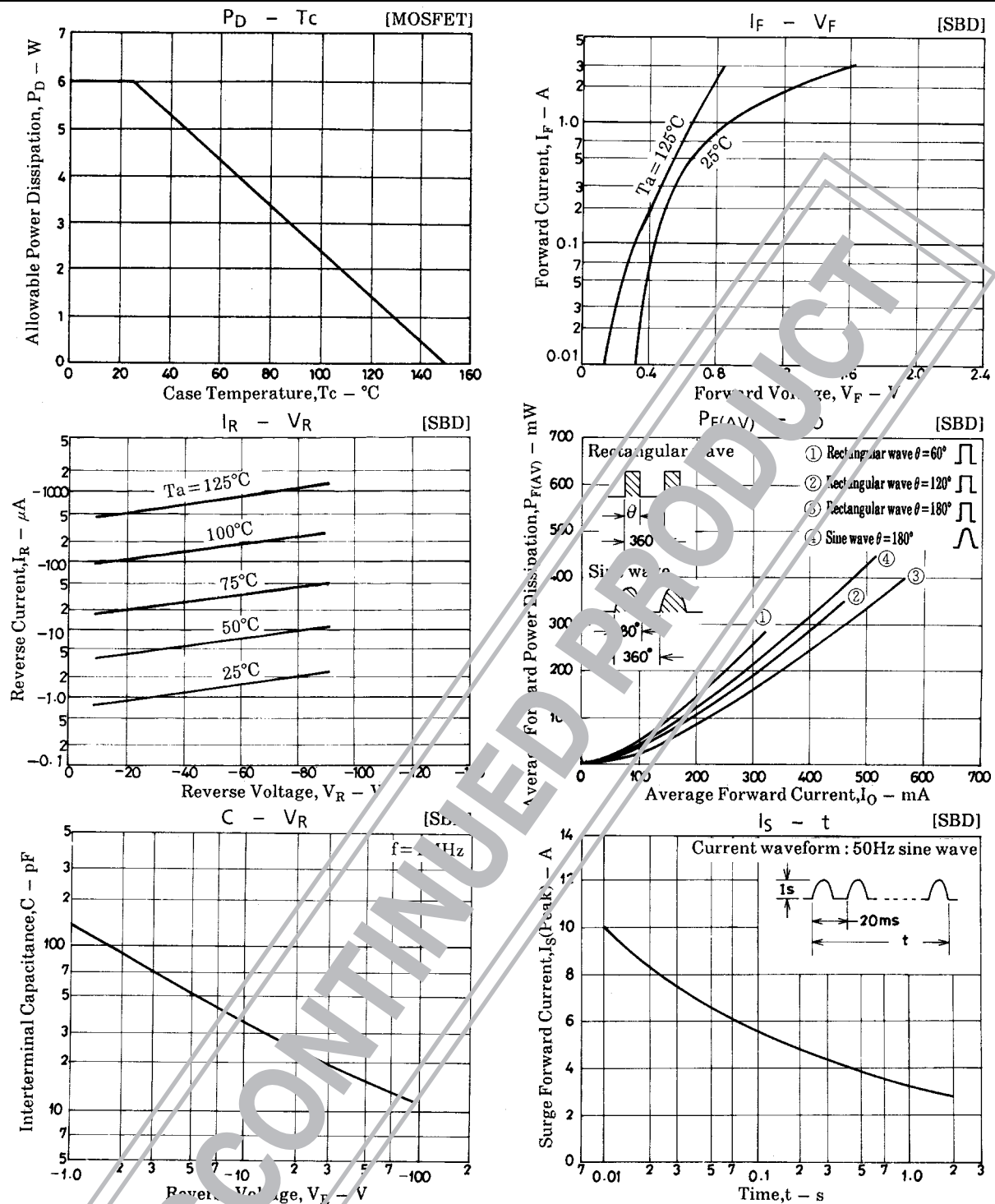
Switching Time Test Circuit [MOSFET]



Error Test Circuit [SBD]







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