

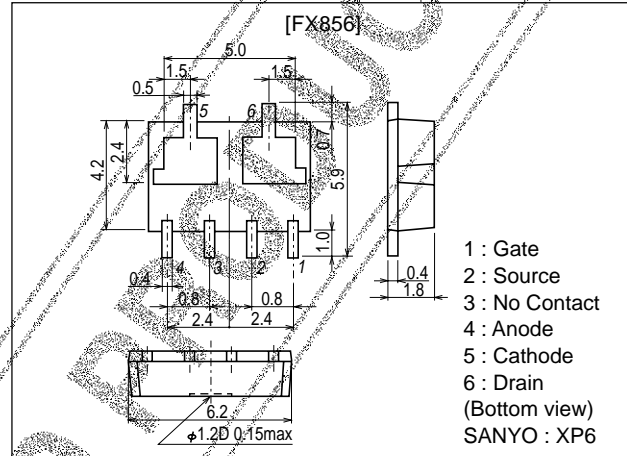
SANYO**DC/DC Converter Applications****Features**

- The FX856 composite device consists of following two devices to facilitate high-density mounting. One is a P-channel MOSFET that features low ON resistance, high-speed switching, and low driving voltage. The other is a schottky barrier diode that features short reverse recovery time and low forward voltage.
- Each device incorporated in the FX856 is equivalent to the 2SJ416 and to the SB07-03P, respectively.

Package Dimensions

unit:mm

2119

**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 _{GS}		±20	V
Drain Current (DC)	I _D		-2	A
Drain Current (Pulse)	I _{DP}	PW=10μs, duty cycle, 1%	-8	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (750mm ² ×0.8mm)	1.5	W
		T _c =25°C	6	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, 1cycle	5	A
Junction Temperature	T _j		-55 to +125	°C
Storage Temperature	T _{stg}		-55 to +125	°C

Marking : 863

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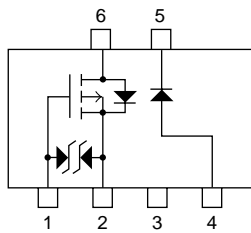
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FX856

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[MOSFET]						
Drain-to-Source 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}	$V_{GS} = \pm 16V, V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V, I_D = -1mA$	-1.0		-2.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10V, I_D = -1A$	1.2	2.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -1A, V_{GS} = -10V$		310	440	$m\Omega$
	$R_{DS(on)2}$	$I_D = -1A, V_{GS} = -4V$		480	650	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS} = -10V, f = 1MHz$		170		pF
Output Capacitance	C_{oss}	$V_{DS} = -10V, f = 1MHz$		120		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10V, f = 1MHz$		30		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		10		ns
Rise Time	t_r	See specified Test Circuit		20		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		110		ns
Fall Time	t_f	See specified Test Circuit		75		ns
Diode Forward Voltage	V_{SD}	$I_S = -2A, V_{GS} = 0$		-1.0	-1.2	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 a ceramic board (750mm ² × 0.8mm)		100		°C/W

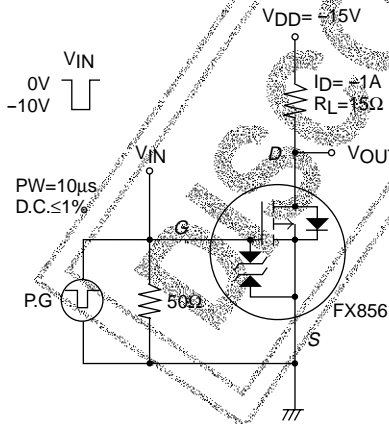
Electrical Connection



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

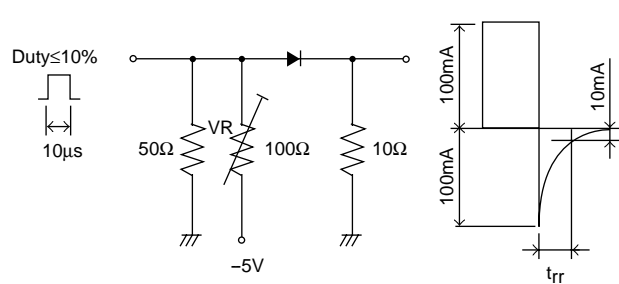
Switching Time Test Circuit

[MOSFET]

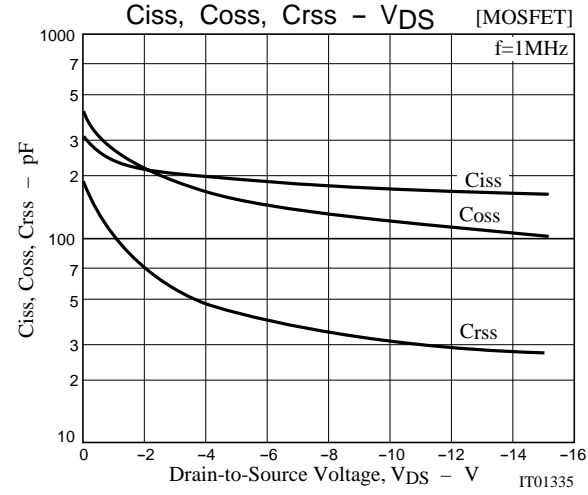
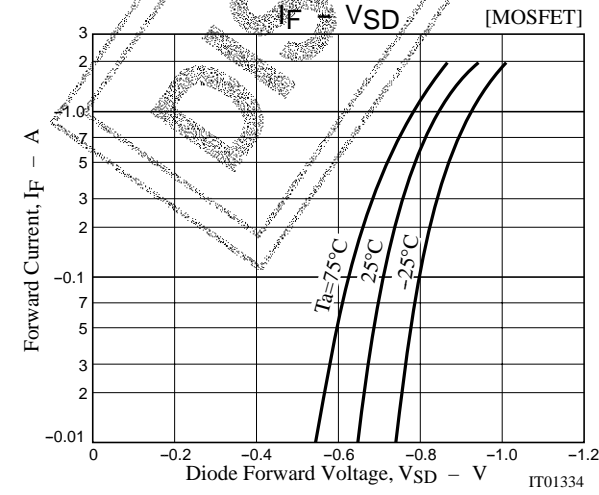
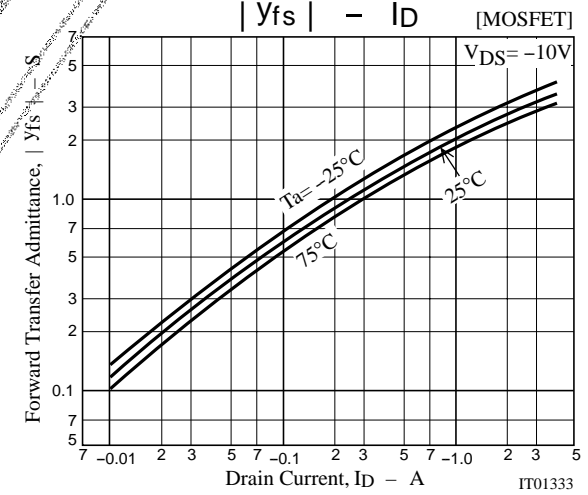
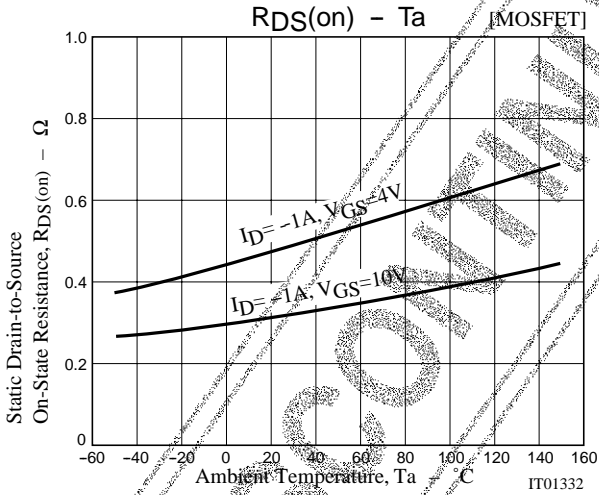
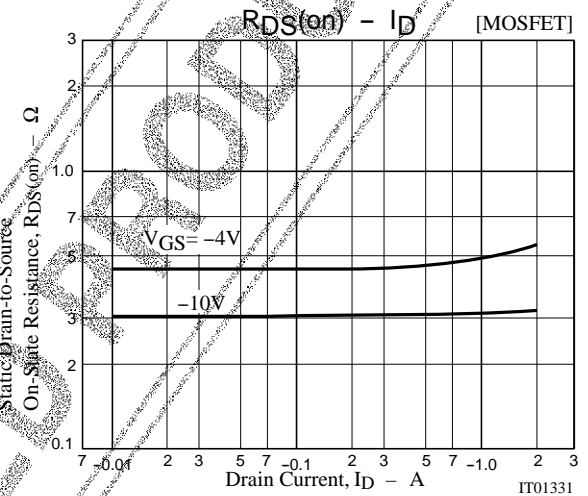
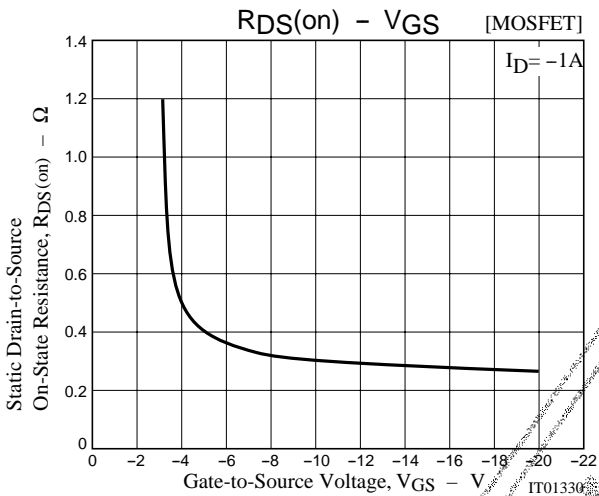
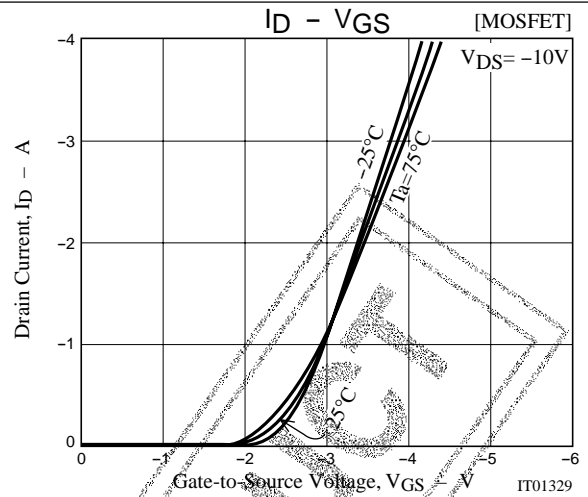
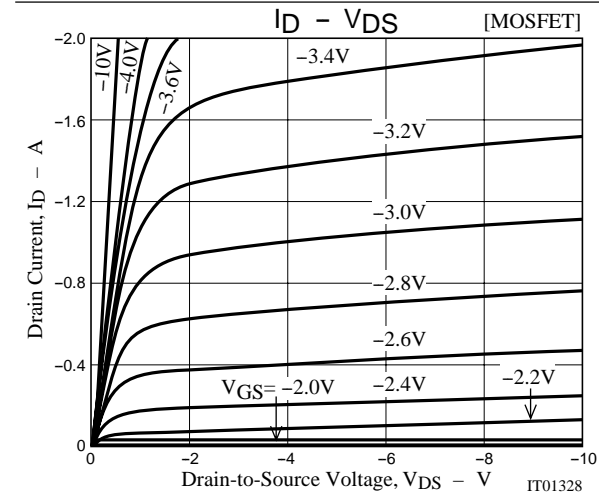


Trr Test Circuit

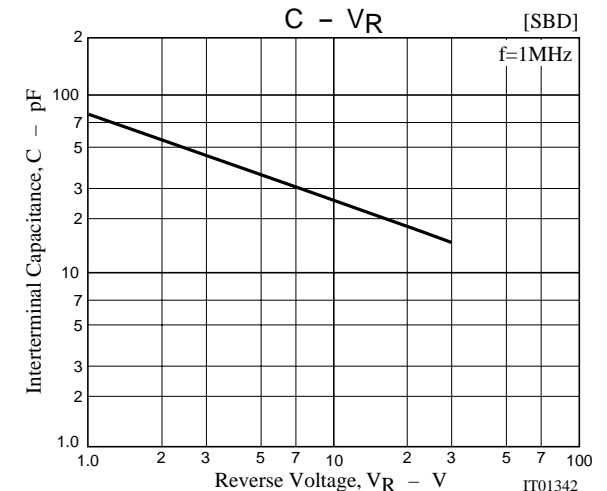
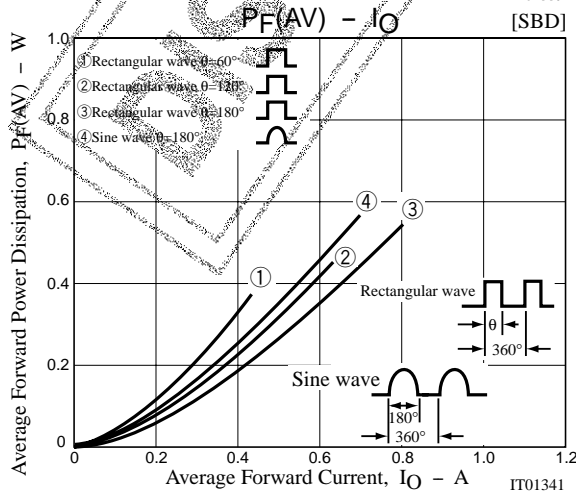
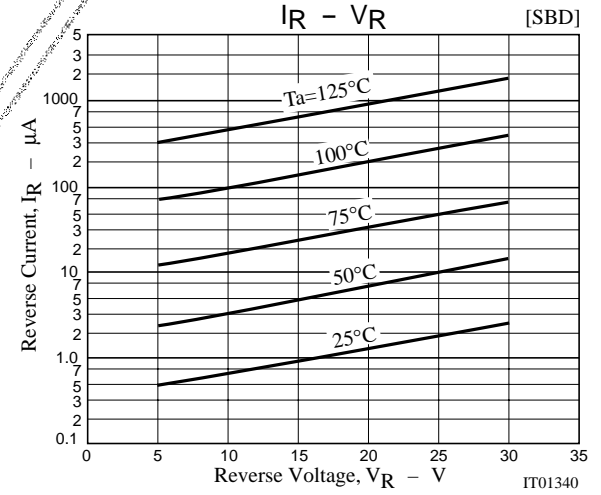
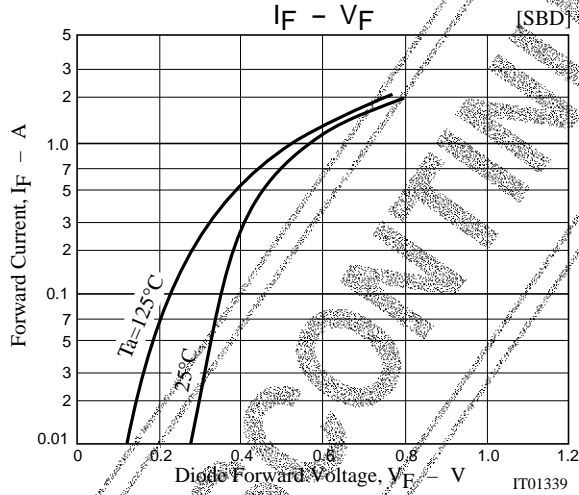
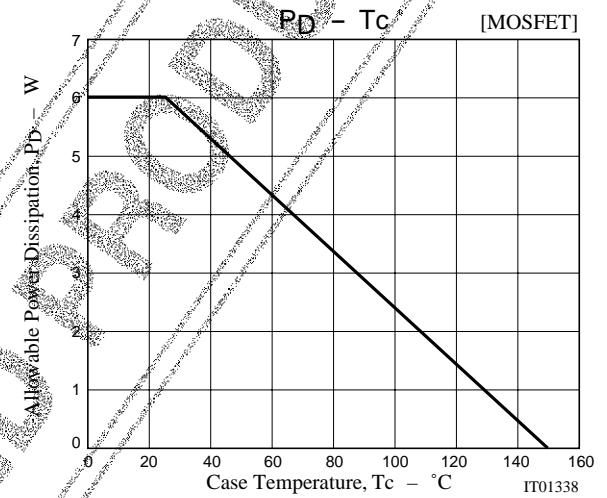
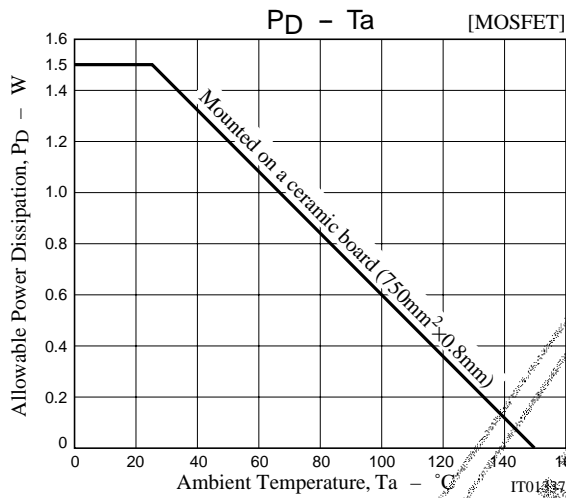
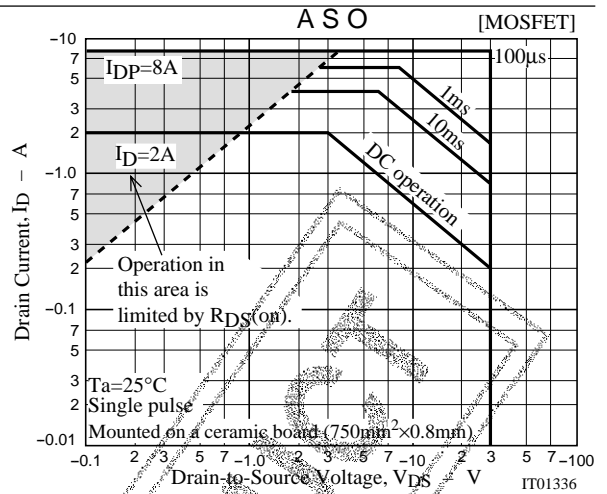
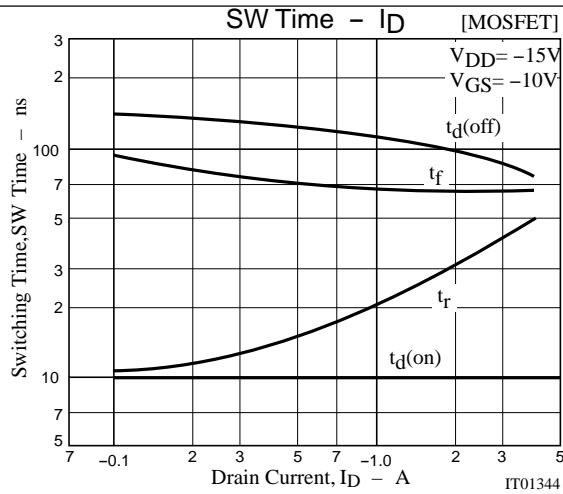
[SBD]

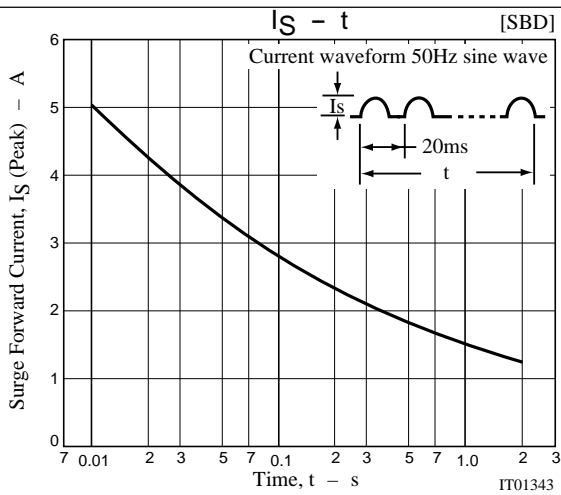


FX856



FX856





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