

SANYO

N-Channel Silicon MOSFET

FW245

DC / DC Converter Applications

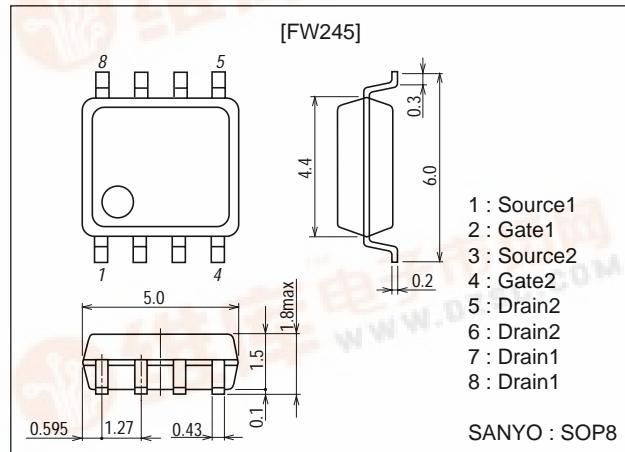
Features

- Low ON-resistance.
- 4V drive.
- Ultrahigh-speed switching.

Package Dimensions

unit : mm

2129



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings		Unit
Drain-to-Source Voltage	V _{DSS}			30	V
Gate-to-Source Voltage	V _{GSS}			±20	V
Drain Current (DC)	I _D			7	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%		52	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1200mm ² ×0.8mm) 1unit		1.7	W
Total Dissipation	P _T	Mounted on a ceramic board (1200mm ² ×0.8mm)		2.0	W
Channel Temperature	T _{ch}			150	°C
Storage Temperature	T _{stg}			-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0	30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _D =30V, V _{GS} =0			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _D =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _D =10V, I _D =1mA	1.0		2.4	V
Forward Transfer Admittance	y _{fs}	V _D =10V, I _D =7A	7	10		S
Static Drain-to-Source On-State Resistance	R _{D(on)1}	I _D =7A, V _{GS} =10V		26	34	mΩ
	R _{D(on)2}	I _D =4A, V _{GS} =4.5V		39	55	mΩ

Marking : W245

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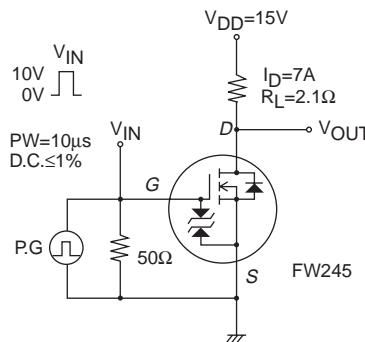
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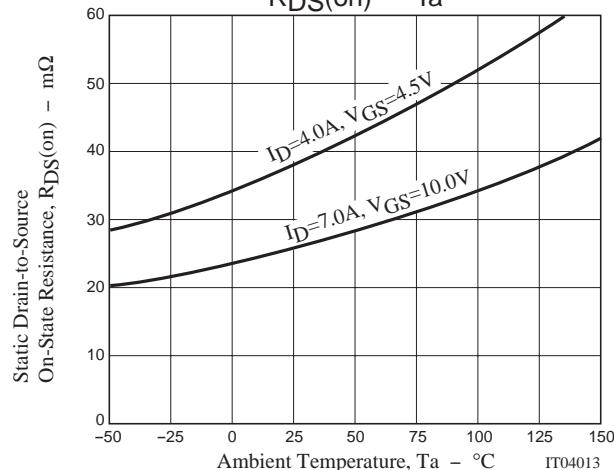
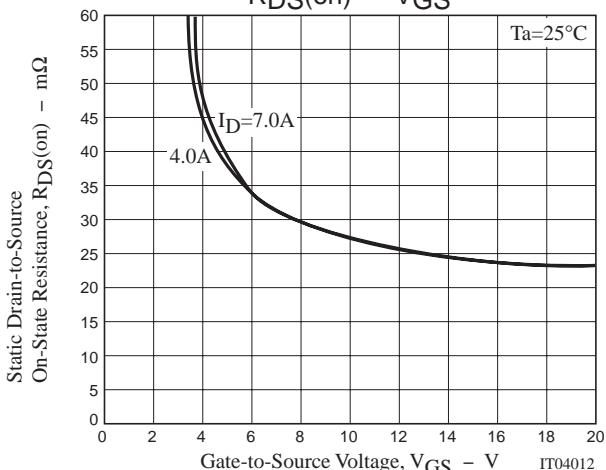
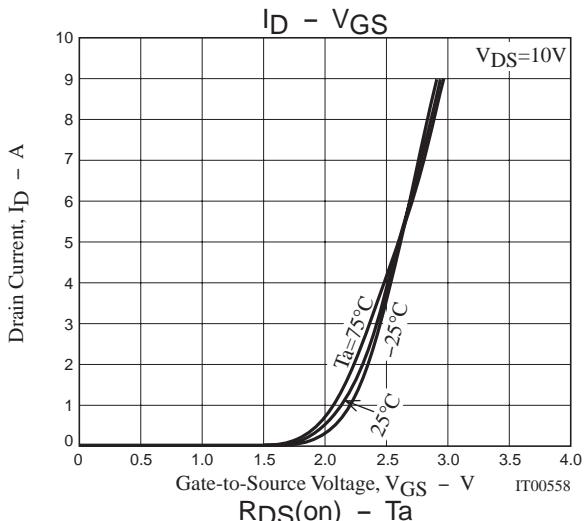
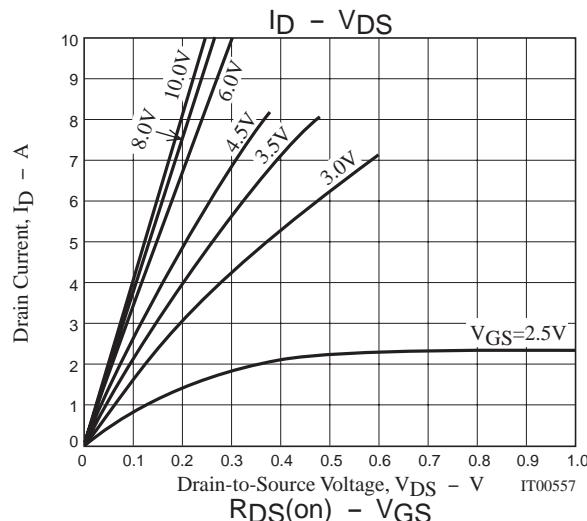
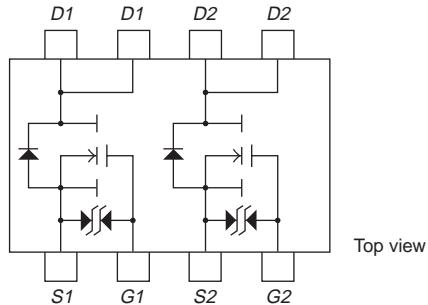
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		550		pF
Output Capacitance	C_{oss}	$V_{DS}=10V, f=1MHz$		170		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, f=1MHz$		90		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		9		ns
Rise Time	t_r	See specified Test Circuit.		73		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		41		ns
Fall Time	t_f	See specified Test Circuit.		54		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		10		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		1.5		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		1.0		nC
Diode Forward Voltage	V_{SD}	$I_S=7A, V_{GS}=0$		0.82	1.2	V

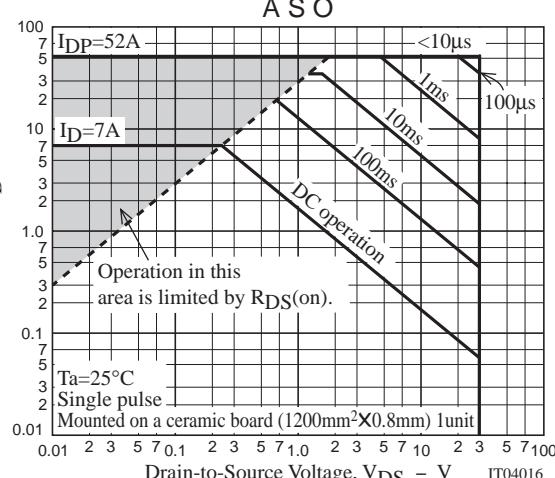
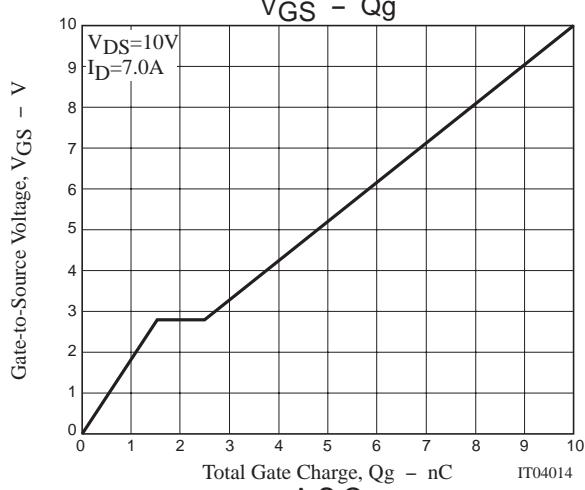
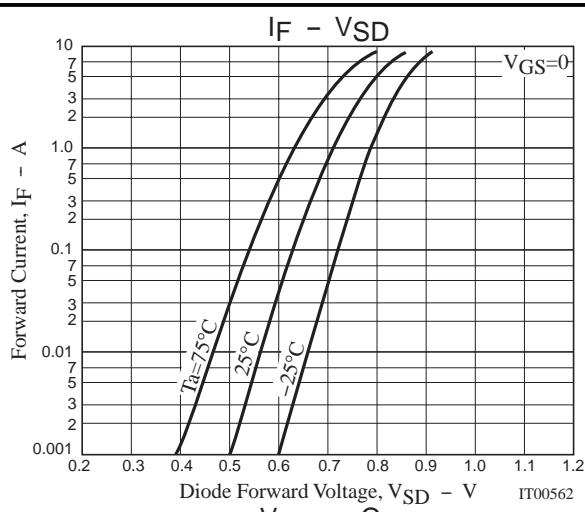
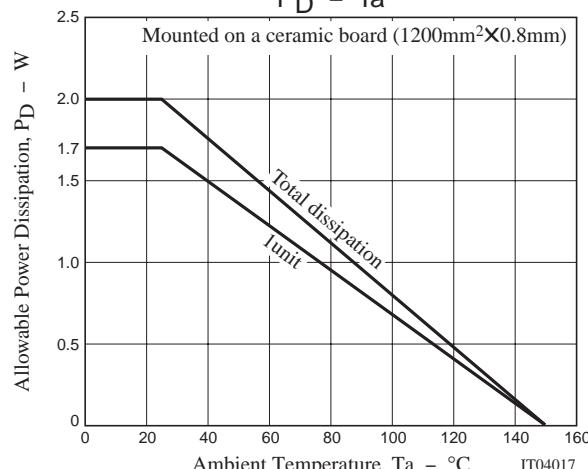
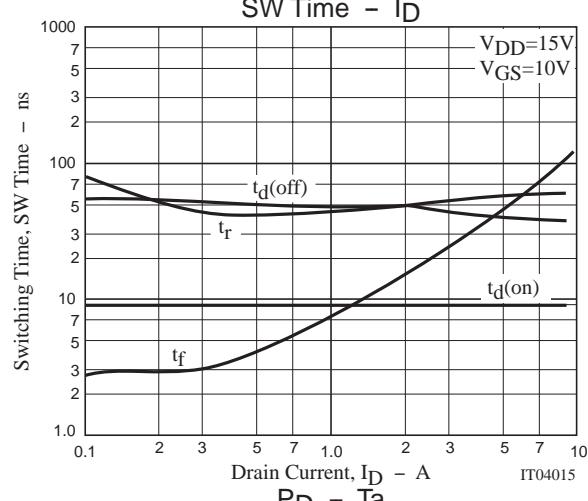
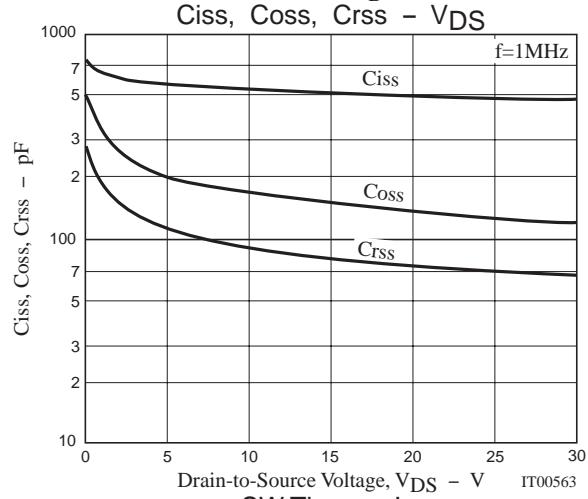
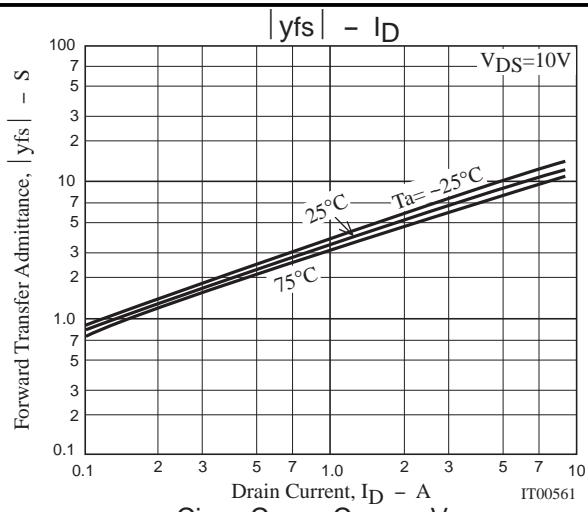
Switching Time Test Circuit



Electrical Connection



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