

Ordering number : ENN7133

N-Channel Silicon MOSFET

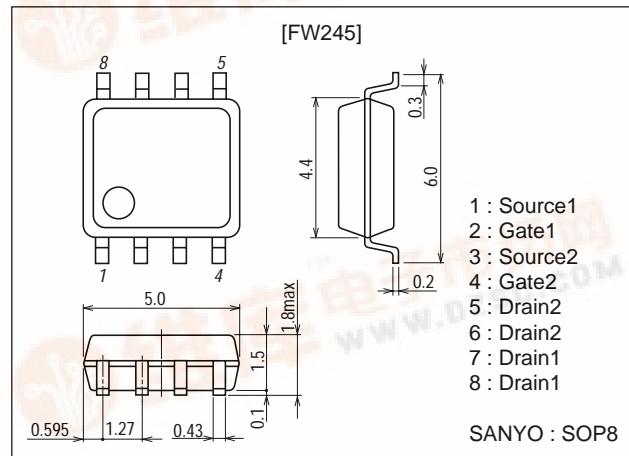
**FW245****SANYO****DC / DC Converter Applications****Features**

- 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	$V_{DS}$		30	V
Gate-to-Source Voltage	$V_{GS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		7	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	52	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (1200mm <sup>2</sup> X0.8mm) 1unit	1.7	W
Total Dissipation	$P_T$	Mounted on a ceramic board (1200mm <sup>2</sup> X0.8mm)	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	$I_{DSS}$	$V_{DS}=30V$ , $V_{GS}=0$			1	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16V$ , $V_{DS}=0$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V$ , $I_D=1mA$	1.0		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V$ , $I_D=7A$	7	10		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=7A$ , $V_{GS}=10V$		26	34	m $\Omega$
	$R_{DS(on)2}$	$I_D=4A$ , $V_{GS}=4.5V$		39	55	m $\Omega$

Marking : W245

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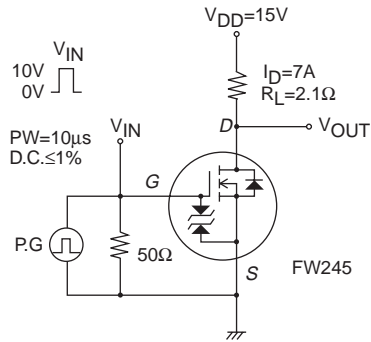
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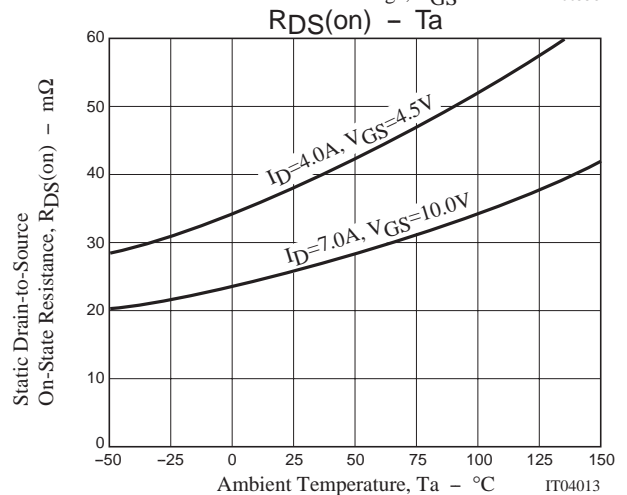
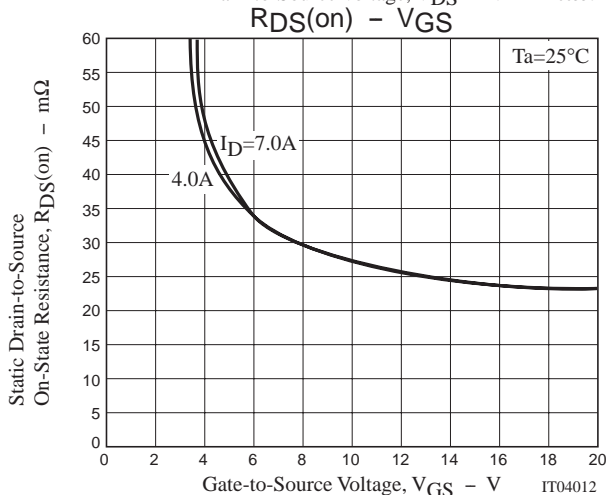
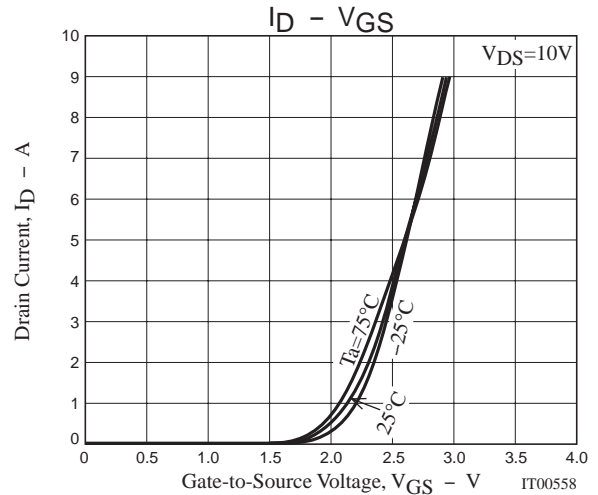
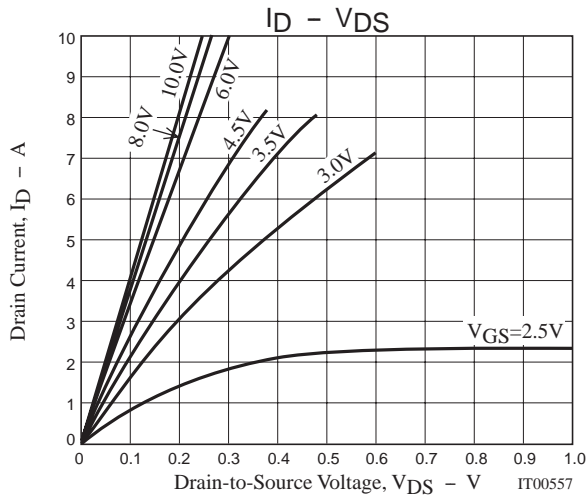
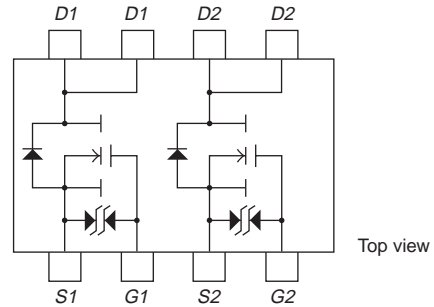
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		550		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		170		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		90		pF
Turn-ON Delay Time	$t_d(on)$	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	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		10		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		1.5		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		1.0		nC
Diode Forward Voltage	$V_{SD}$	$I_S=7A, V_{GS}=0$		0.82	1.2	V

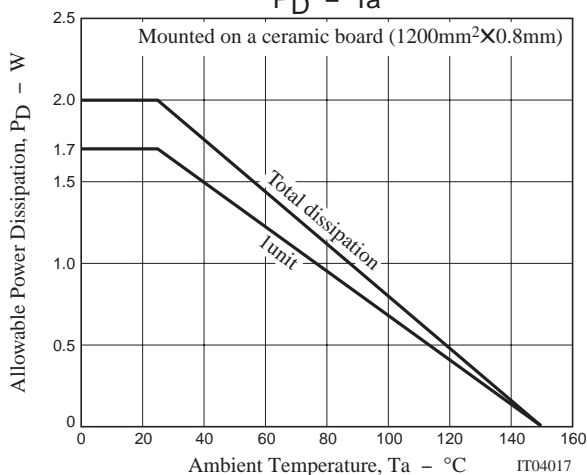
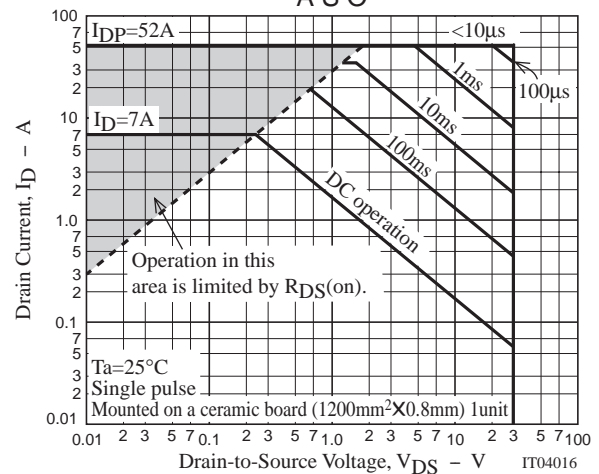
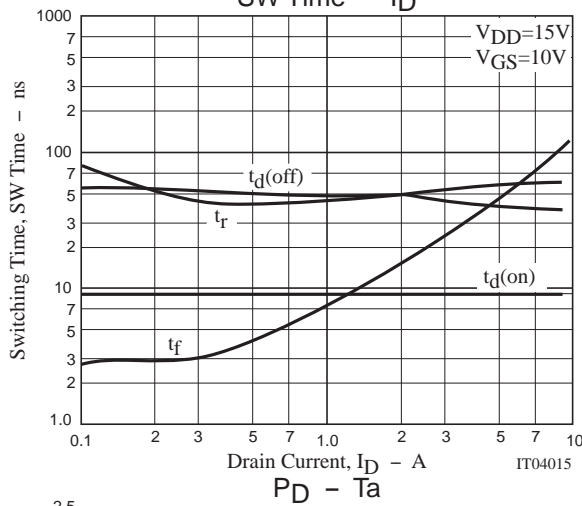
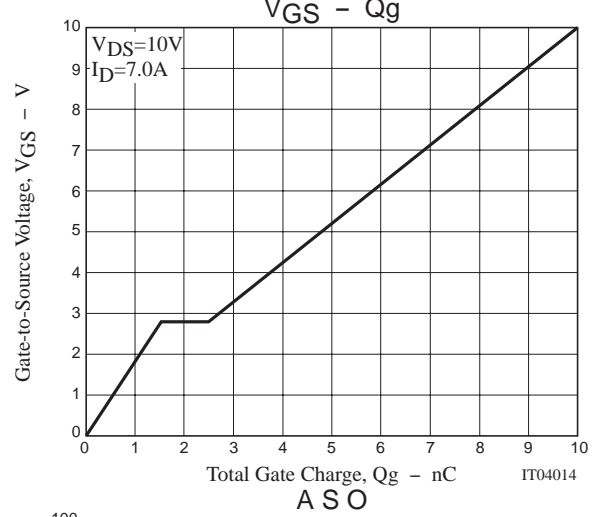
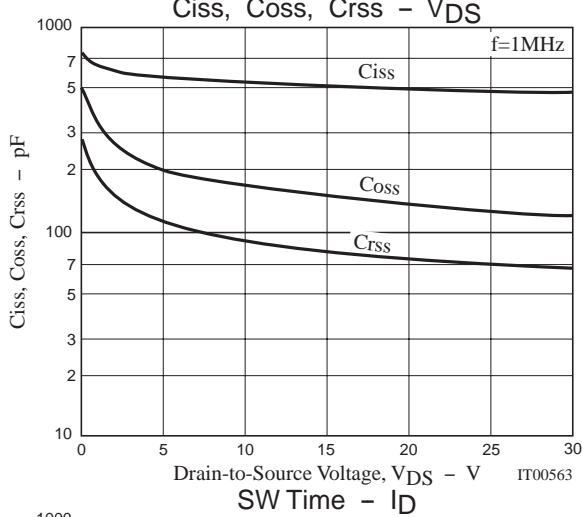
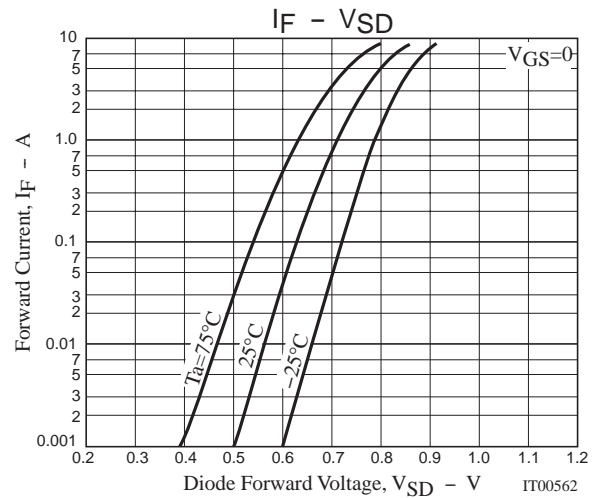
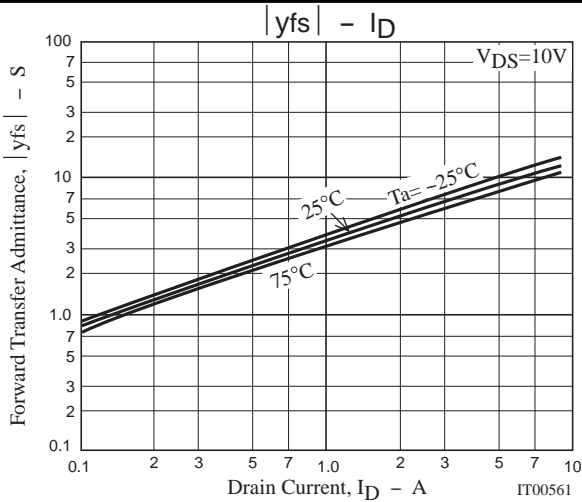
## Switching Time Test Circuit



## Electrical Connection



# FW245



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