

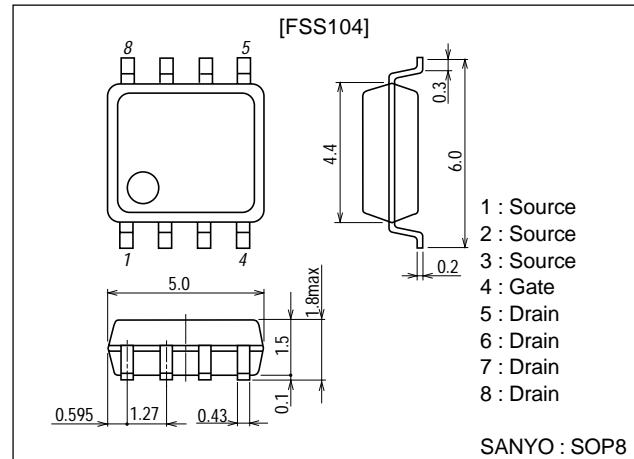
**FSS104****DC/DC Converter Applications****Features**

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

**Package Dimensions**

unit:mm

2116

**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)	$I_D$		-6	A
Drain Current (pulse)	$I_{DP}$	PW≤10μs, duty cycle≤1%	-32	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (1200mm <sup>2</sup> ×0.8mm)	2.0	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-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	$I_{DSS}$	$V_{DS}=-30V, V_{GS}=0$			-10	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	yfs	$V_{DS}=-10V, I_D=-6A$	6	9		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-6A, V_{GS}=-10V$		30	38	mΩ
	$R_{DS(on)2}$	$I_D=-3A, V_{GS}=-4V$		62	85	mΩ
Input Capacitance	Ciss	$V_{DS}=-10V, f=1MHz$		1100		pF
Output Capacitance	Coss	$V_{DS}=-10V, f=1MHz$		640		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=-10V, f=1MHz$		310		pF

Marking : S104

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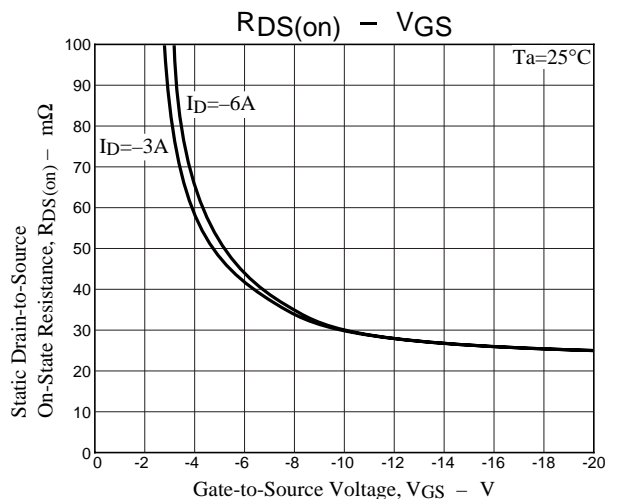
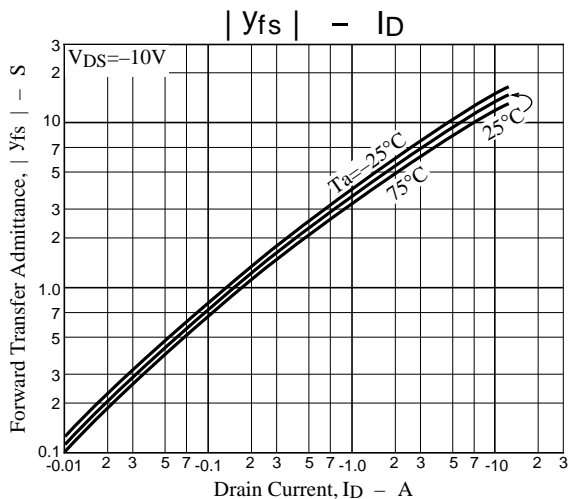
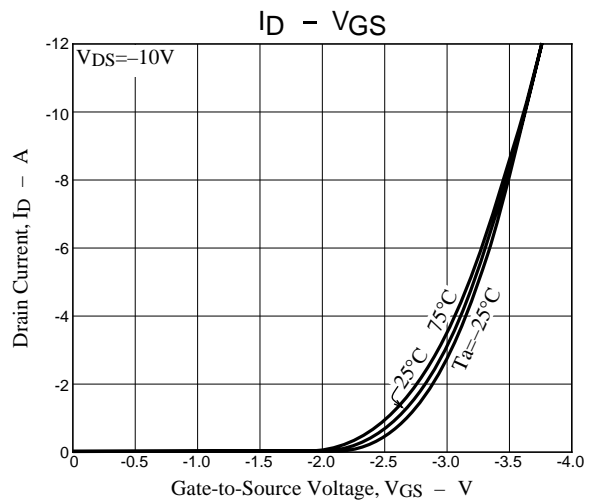
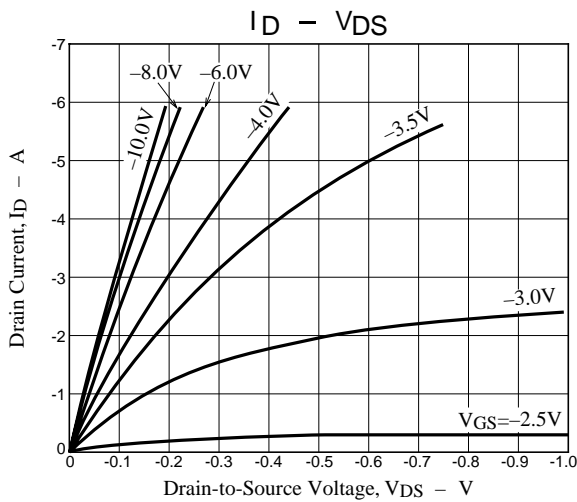
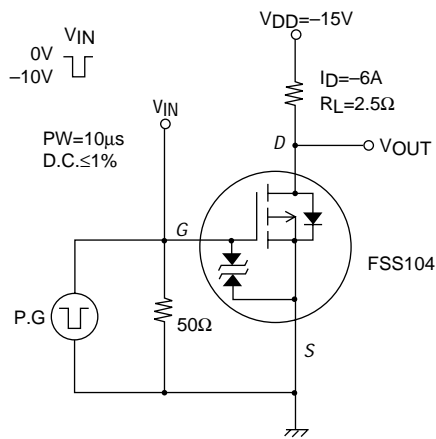
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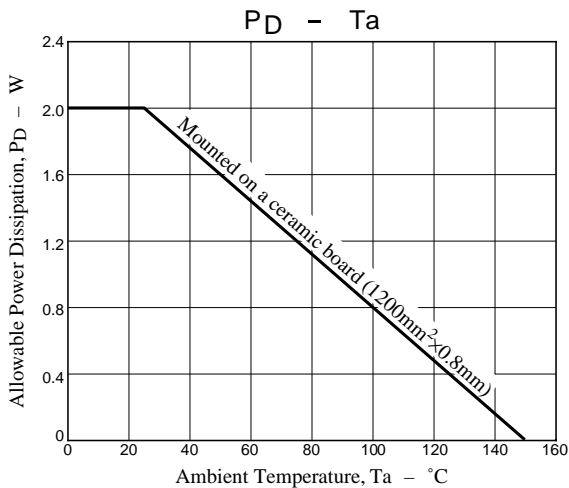
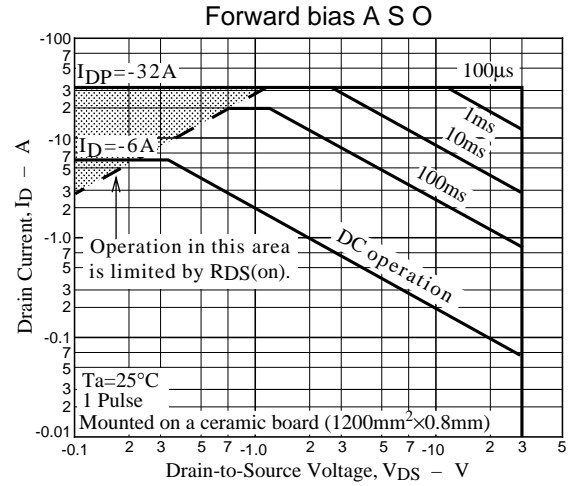
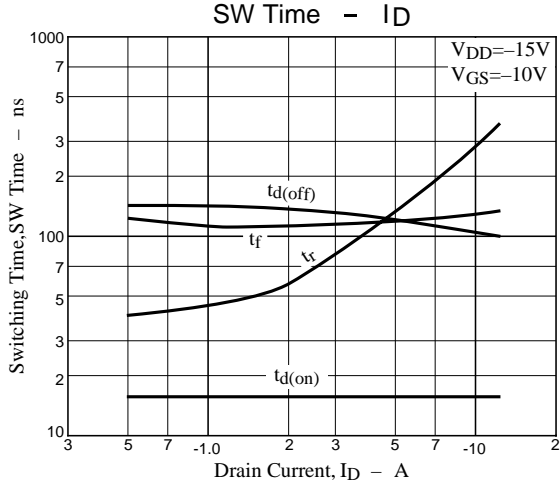
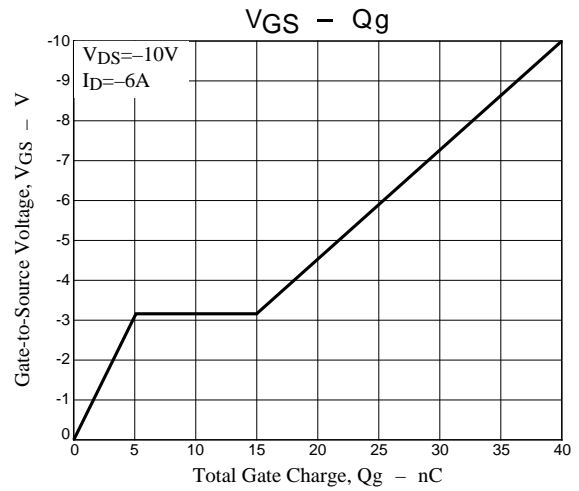
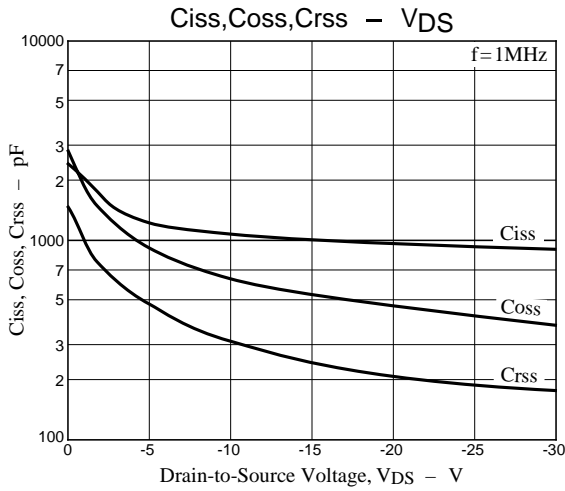
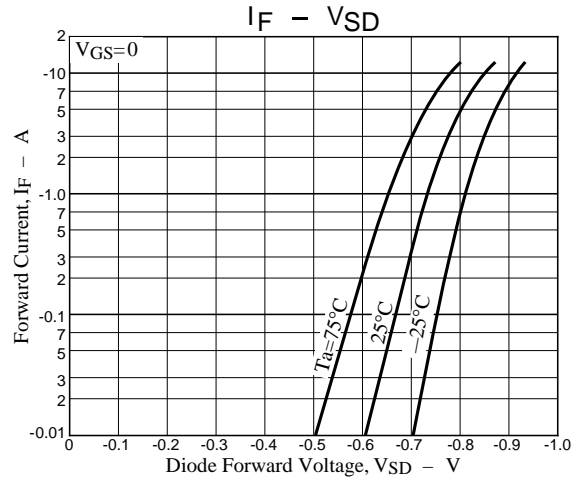
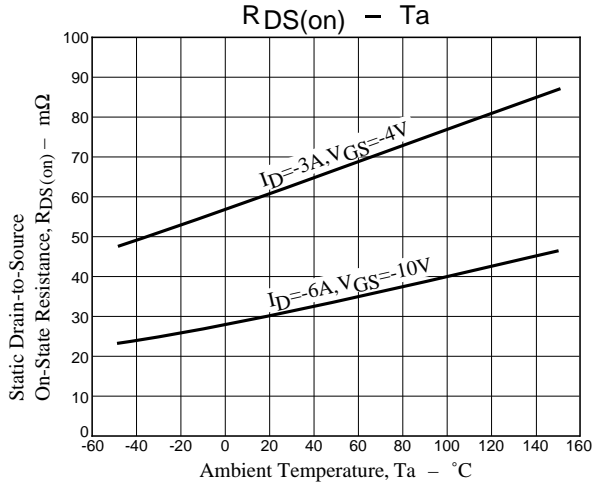
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		17		ns
Rise Time	$t_r$	See specified Test Circuit		170		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		130		ns
Fall Time	$t_f$	See specified Test Circuit		135		ns
Total Gate Charge	$Q_g$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-6A$		40		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-6A$		5		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-6A$		10		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-6A, V_{GS}=0$		-0.81	-1.5	V

## Switching Time Test Circuit



# FSS104



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