



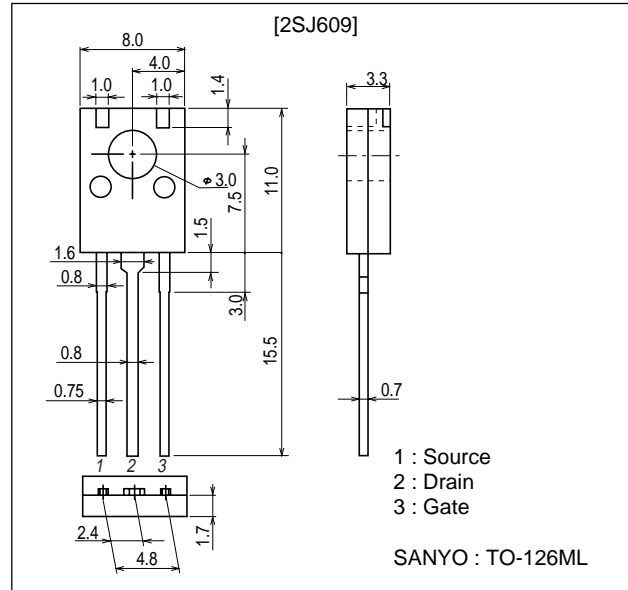
DC / DC Converter Applications

Features

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

Package Dimensions

unit : mm
2190



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-60	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-20	A
Allowable Power Dissipation	P _D		1	W
		T _c =25°C	10	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	-60			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-60V, V _{GS} =0			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0			±10	μA

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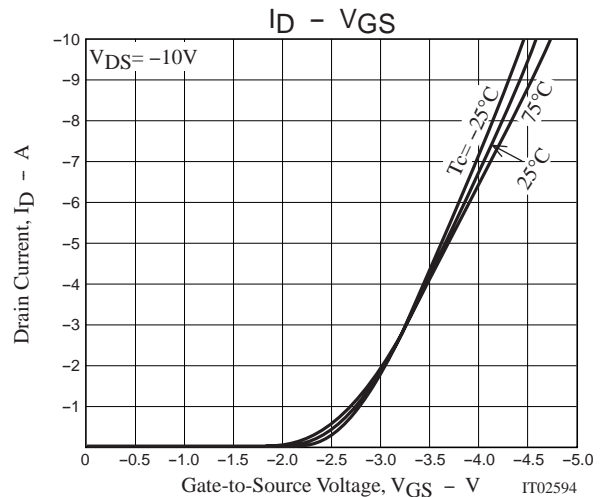
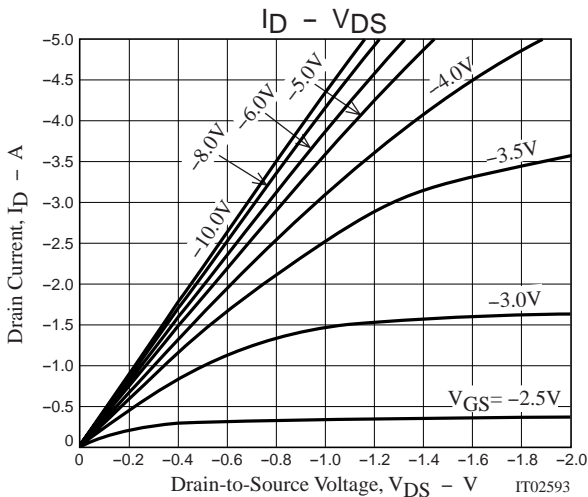
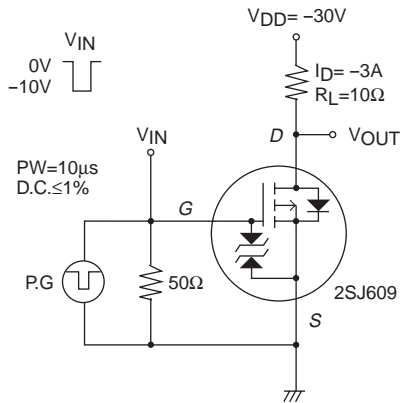
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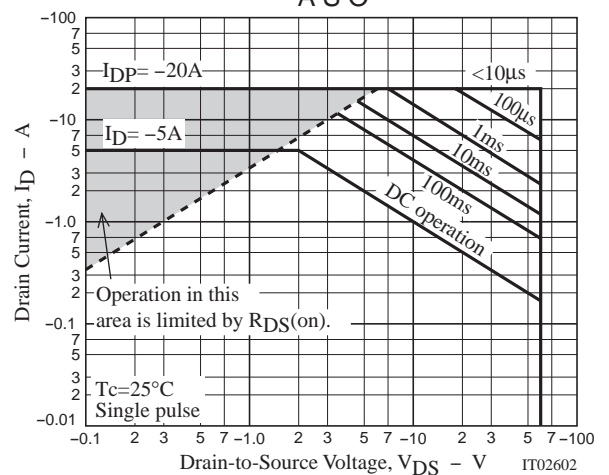
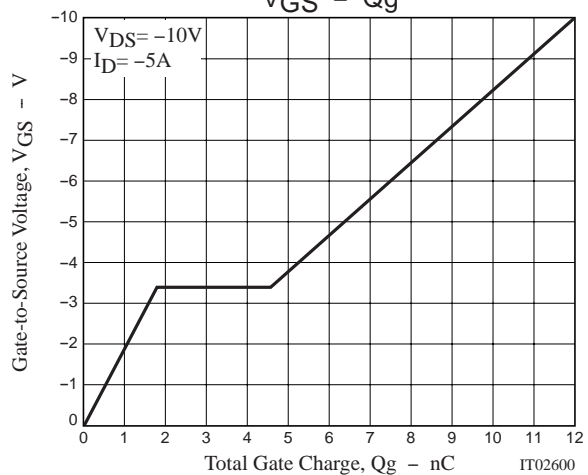
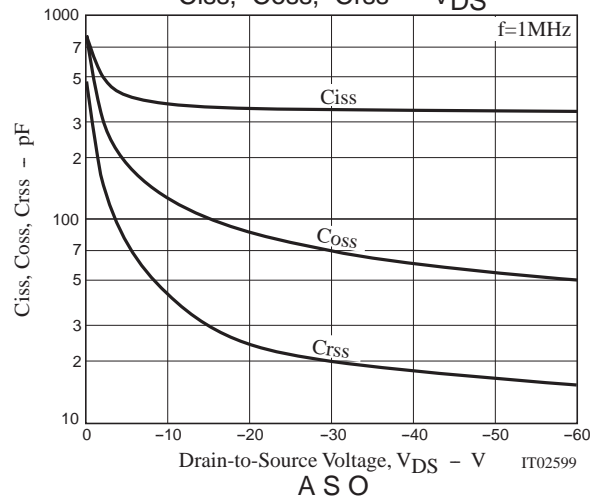
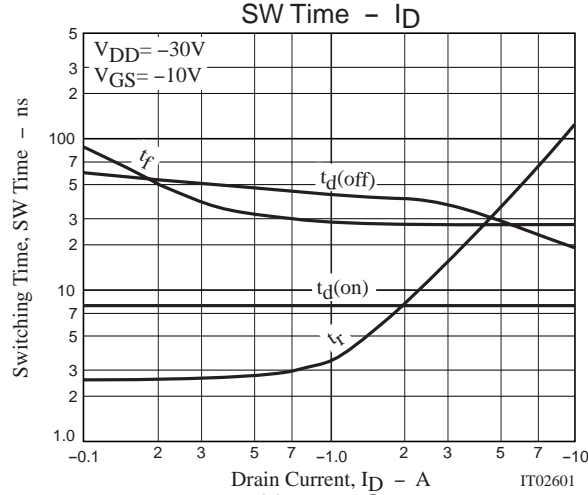
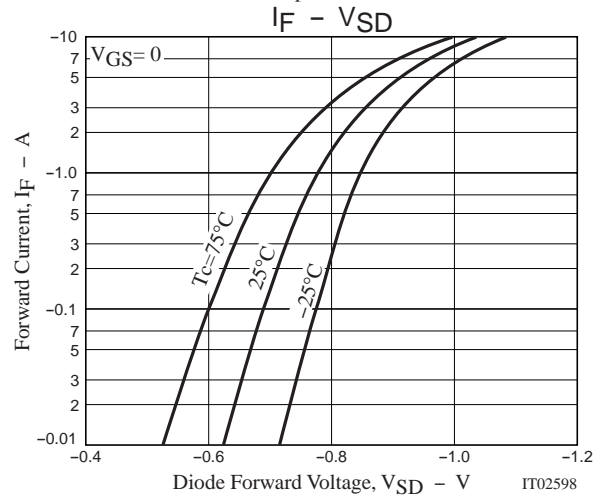
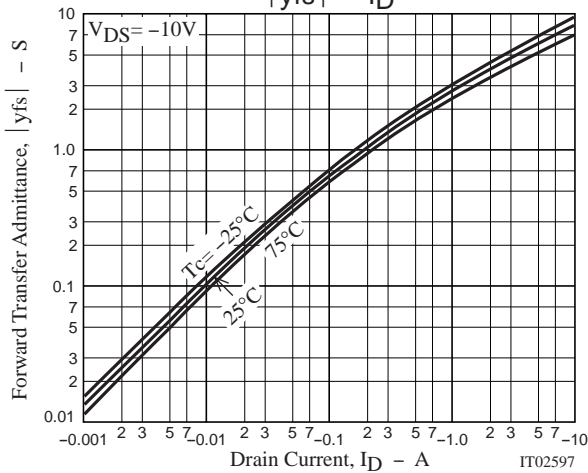
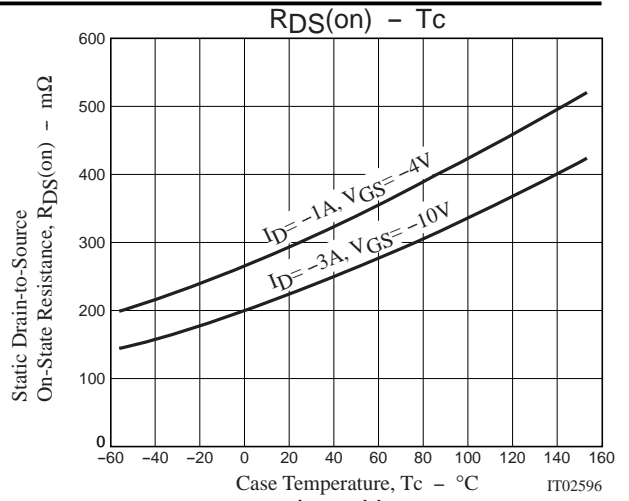
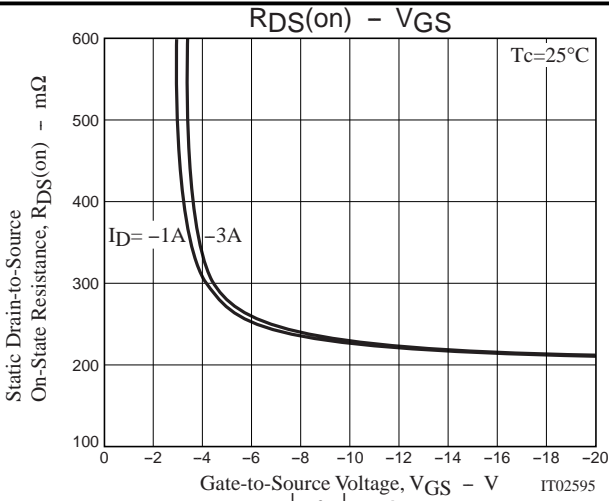
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10V, I_D=-1mA$	-1.0		-2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10V, I_D=-3A$	3.2	4.6		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-3A, V_{GS}=-10V$		225	295	$m\Omega$
	$R_{DS(on)2}$	$I_D=-1A, V_{GS}=-4V$		305	425	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=-20V, f=1MHz$		350		pF
Output Capacitance	C_{oss}	$V_{DS}=-20V, f=1MHz$		90		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=-20V, f=1MHz$		25		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		8		ns
Rise Time	t_r	See specified Test Circuit		15		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		37		ns
Fall Time	t_f	See specified Test Circuit		28		ns
Total Gate Charge	Q_g	$V_{DS}=-10V, V_{GS}=-10V, I_D=-5A$		12		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-10V, V_{GS}=-10V, I_D=-5A$		1.7		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-10V, V_{GS}=-10V, I_D=-5A$		2.9		nC
Diode Forward Voltage	V_{SD}	$I_S=-5A, V_{GS}=0$		-0.91	-1.2	V

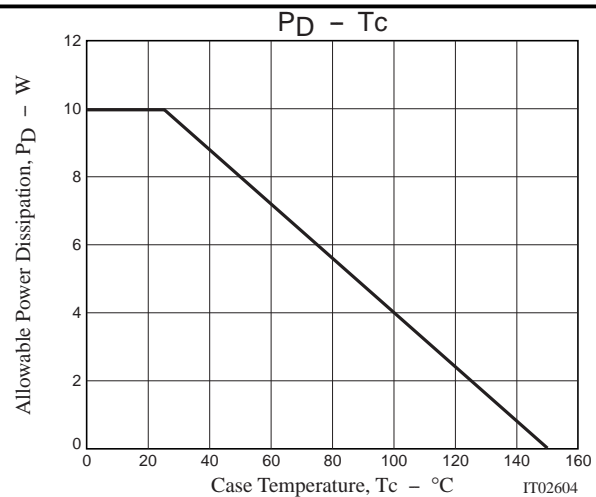
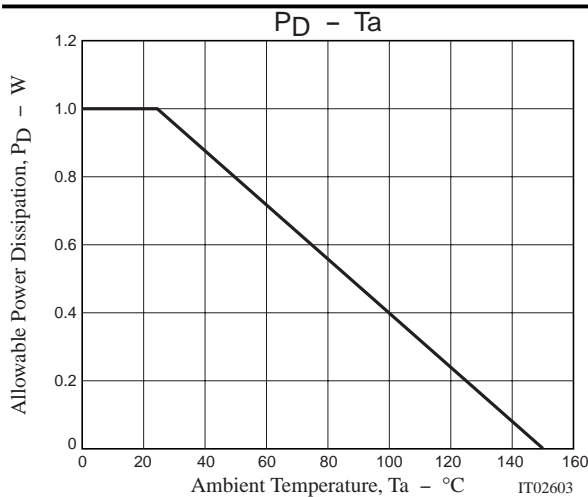
Switching Time Test Circuit



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