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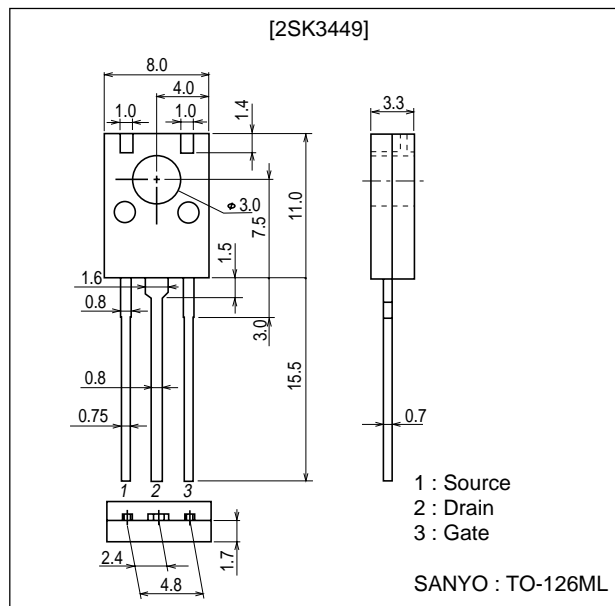
DC / DC Converter Applications

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		4.8	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	19.2	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
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.0		2.4	V

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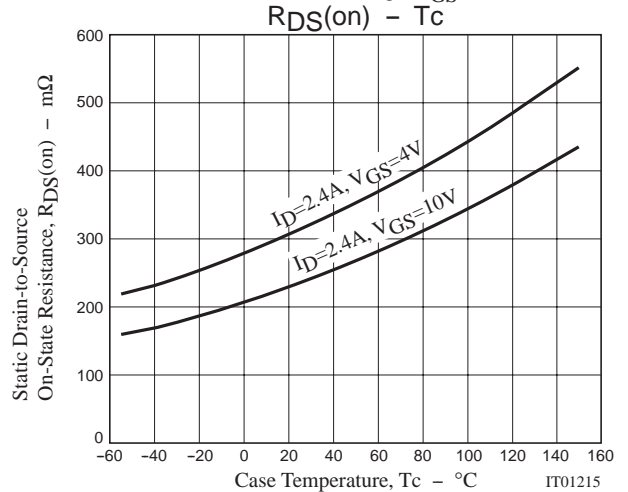
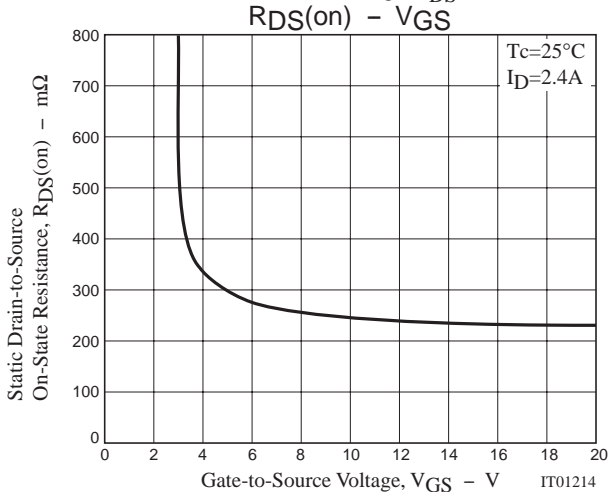
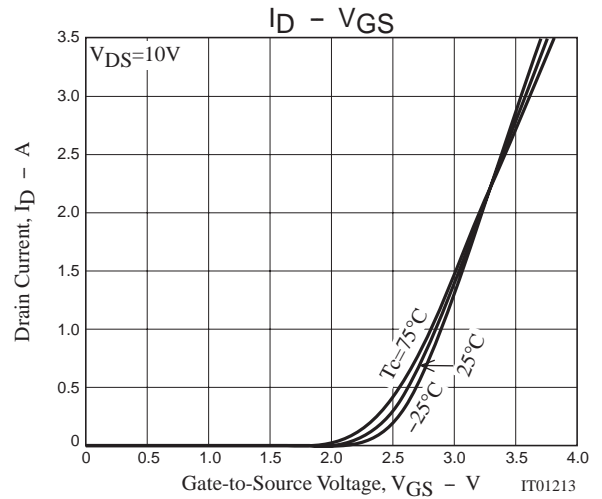
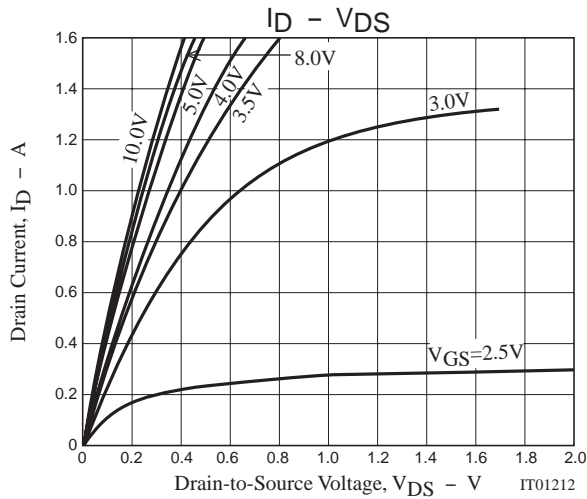
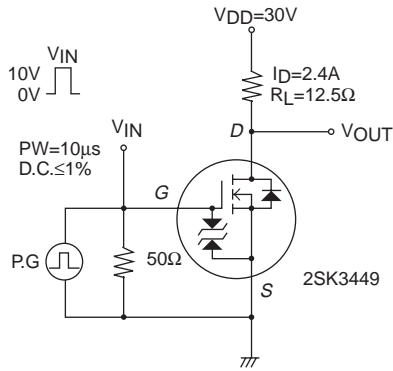
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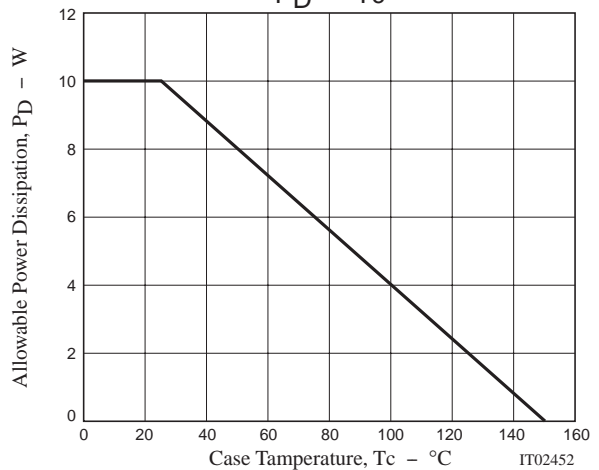
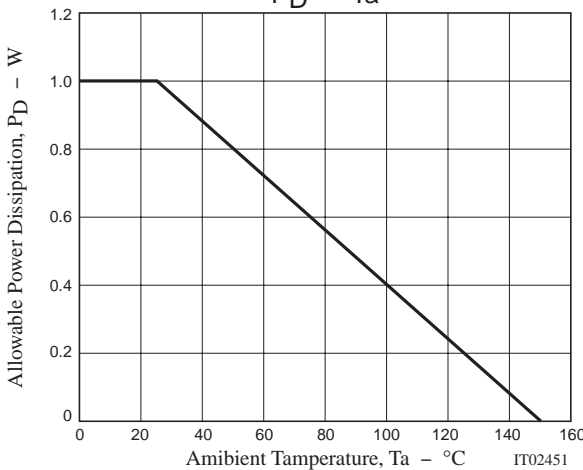
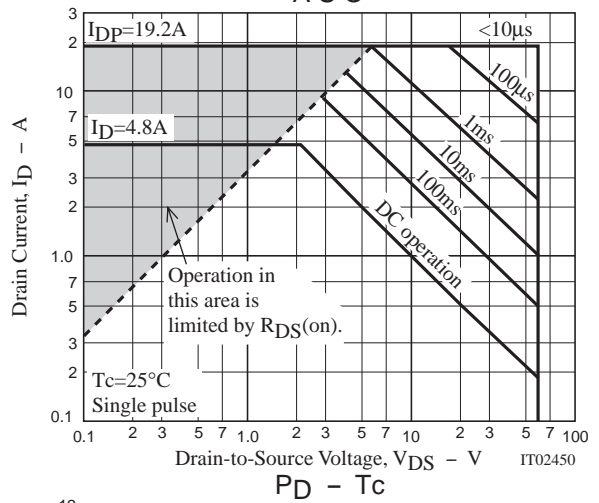
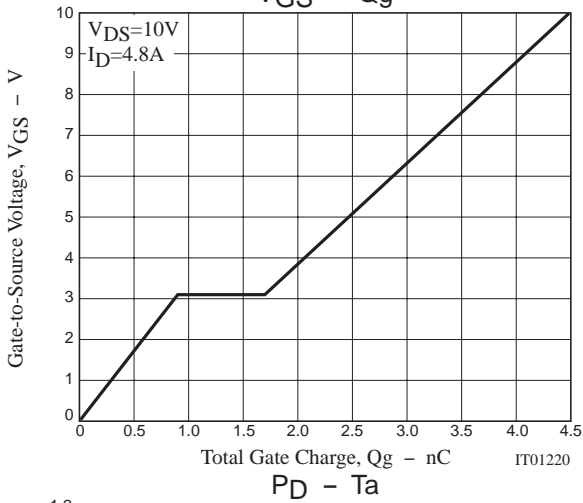
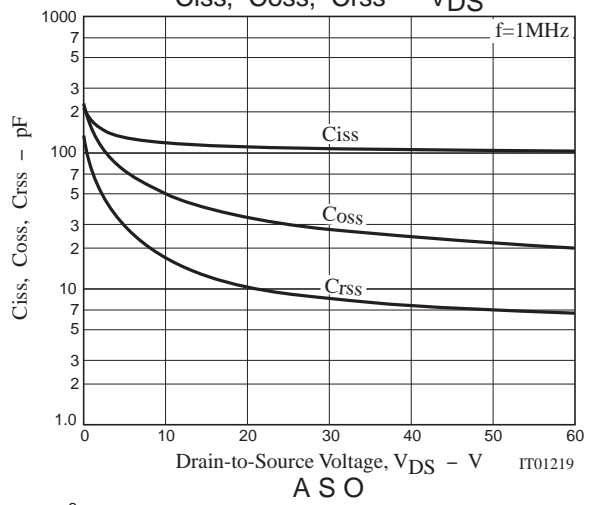
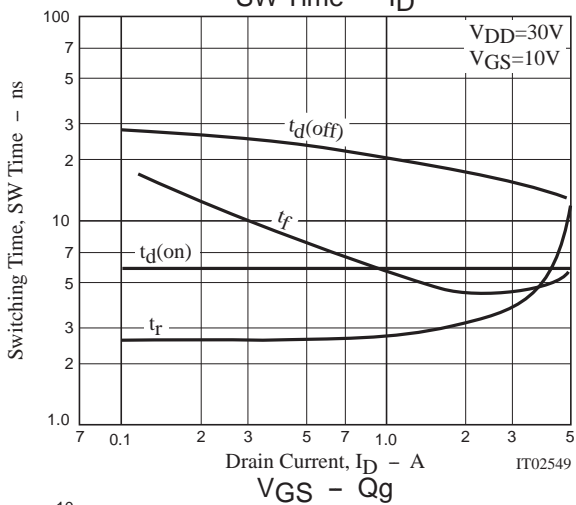
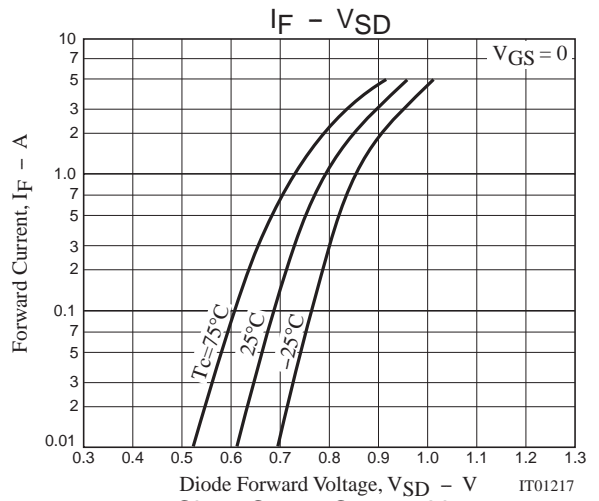
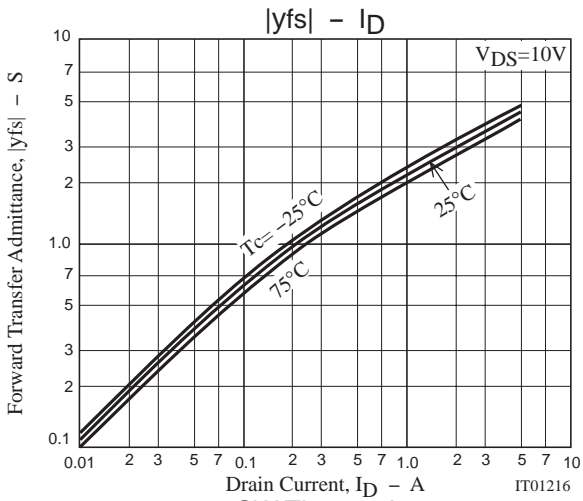
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=2.4A$	2.2	3.2		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=2.4A, V_{GS}=10V$		240	320	$m\Omega$
	$R_{DS(on)2}$	$I_D=2.4A, V_{GS}=4V$		320	440	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		110		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		35		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		10		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		6		ns
Rise Time	t_r	See specified Test Circuit		3.2		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		16		ns
Fall Time	t_f	See specified Test Circuit		4.8		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=10V, I_D=4.8A$		4.5		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=10V, V_{GS}=10V, I_D=4.8A$		0.9		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=10V, V_{GS}=10V, I_D=4.8A$		0.8		nC
Diode Forward Voltage	V_{SD}	$I_S=4.8A, V_{GS}=0$		1	1.2	V

Switching Time Test Circuit



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