



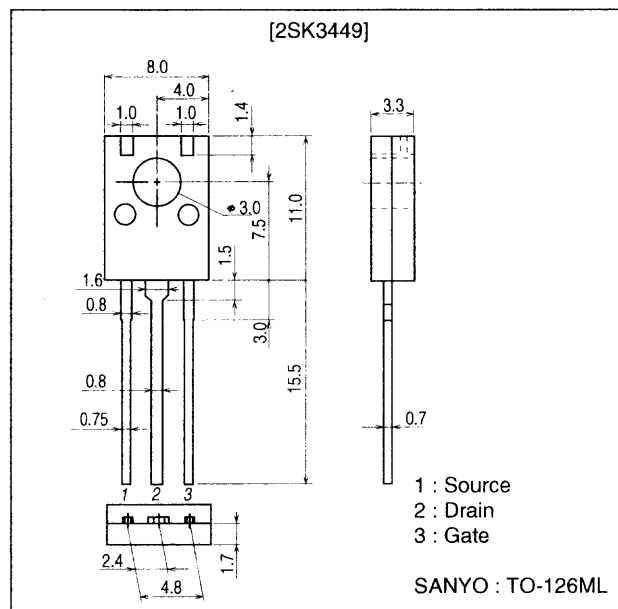
**DC / DC Converter Applications**

**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 <sub>DSS</sub>		60	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		4.8	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	19.2	A
Allowable Power Dissipation	P <sub>D</sub>		1	W
		T <sub>c</sub> =25°C	10	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-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 <sub>D</sub> =1mA, V <sub>GS</sub> =0	60			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0			10	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1.0		2.4	V

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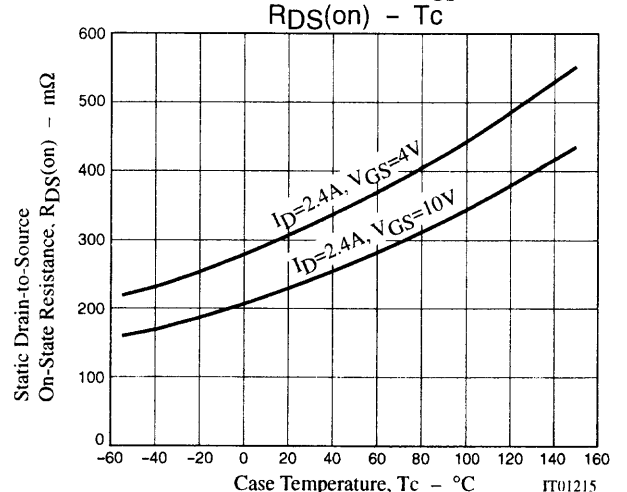
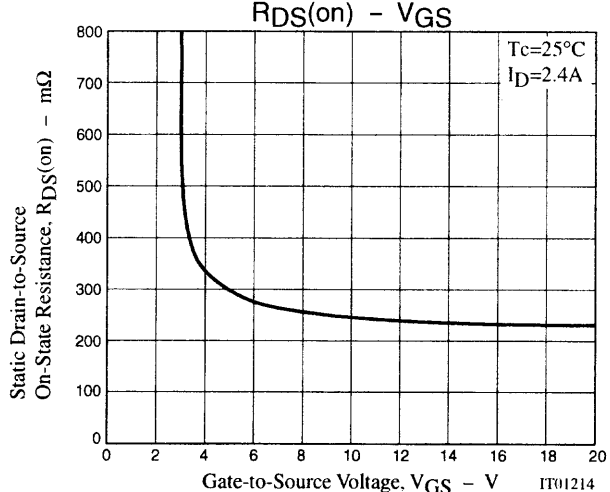
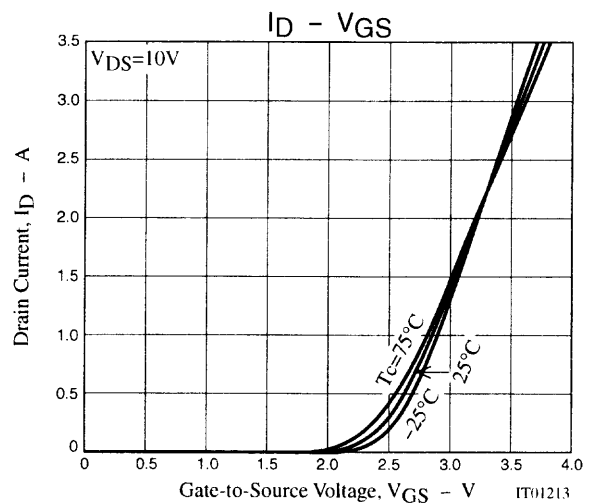
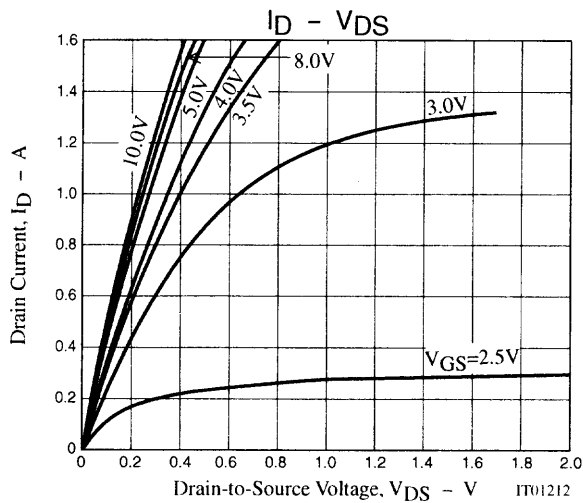
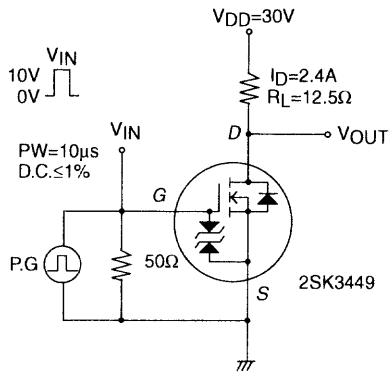
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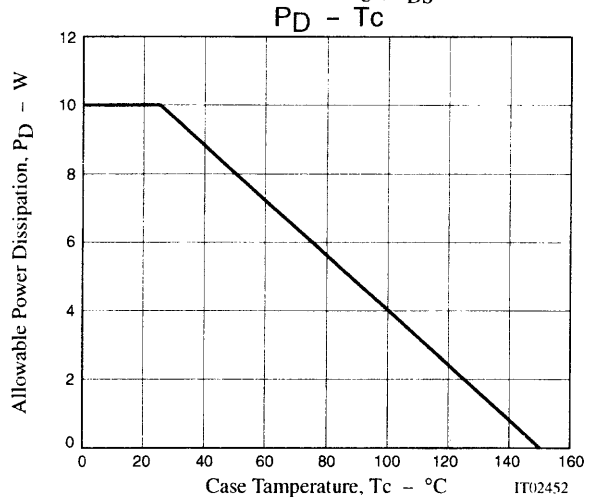
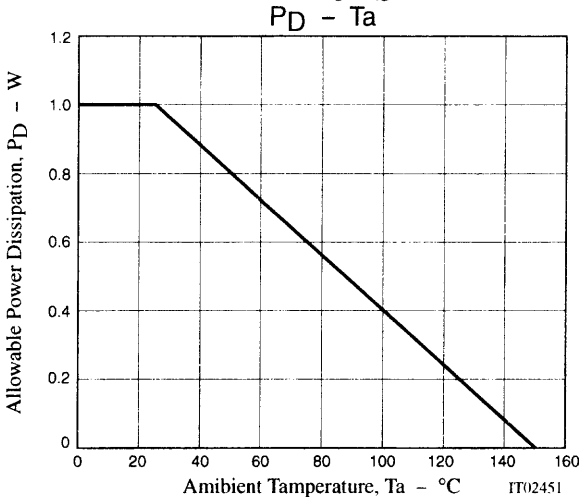
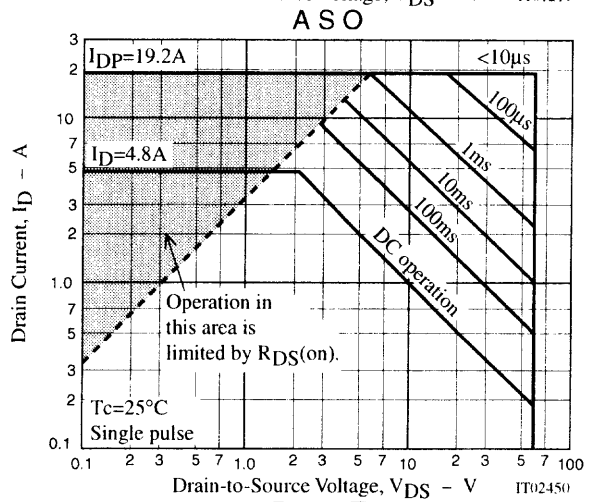
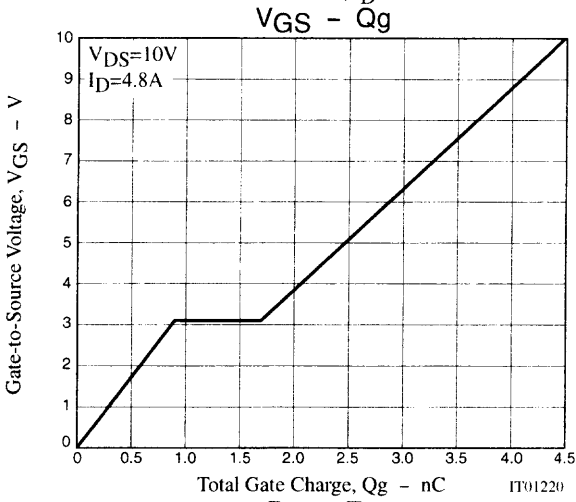
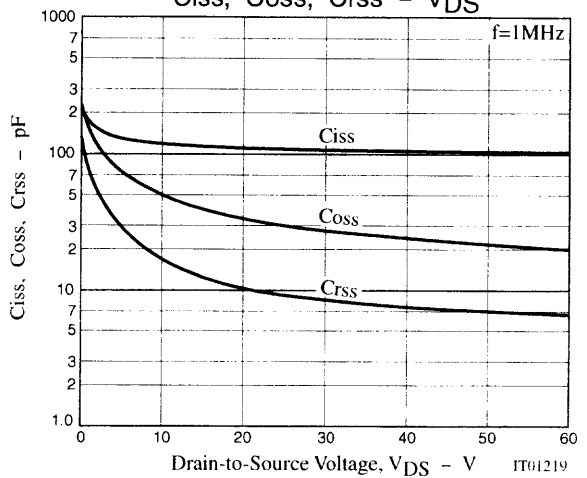
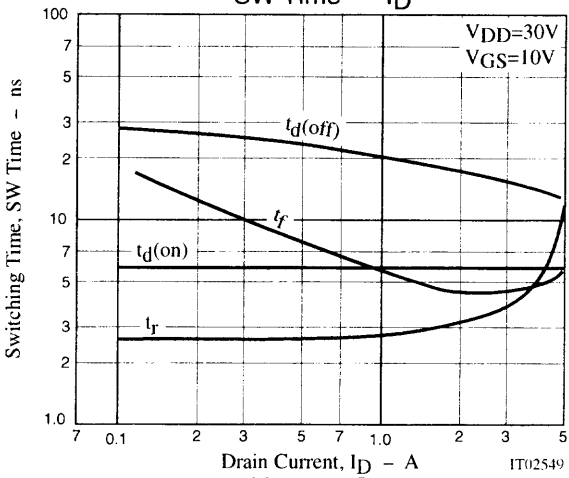
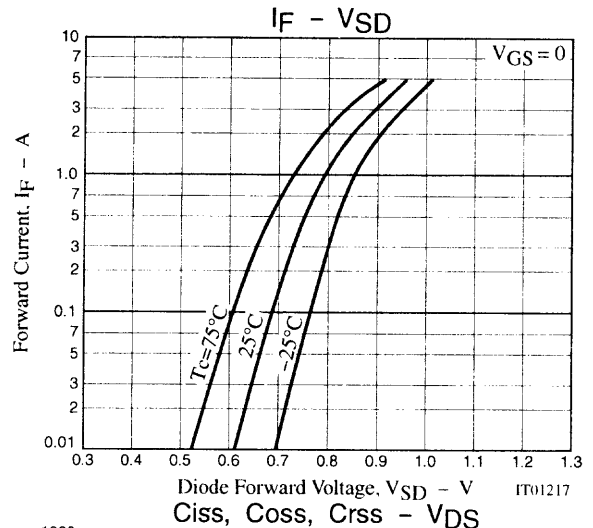
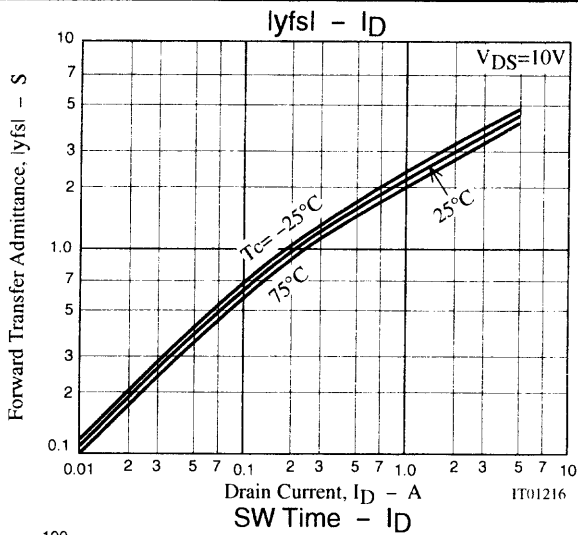
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=2.4A$	2.2	3.2		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=2.4A, V_{GS}=10V$		240	320	$m\Omega$
	$R_{DS(on)2}$	$I_D=2.4A, V_{GS}=4V$		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



# 2SK3449



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