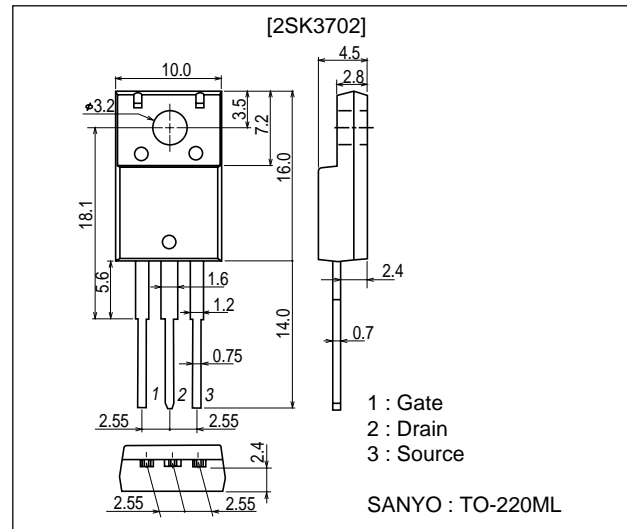


**2SK3702****DC / DC Converter Applications****Features**

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

**Package Dimensions**unit : mm  
2063A**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>		18	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	72	A
Allowable Power Dissipation	P <sub>D</sub>		2.0	W
		T <sub>c</sub> =25°C	20	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 <sub>(BR)DSS</sub>	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			1	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	1.2		2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =9A	8	12		S

Marking : K3702

Continued on next page.

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- SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

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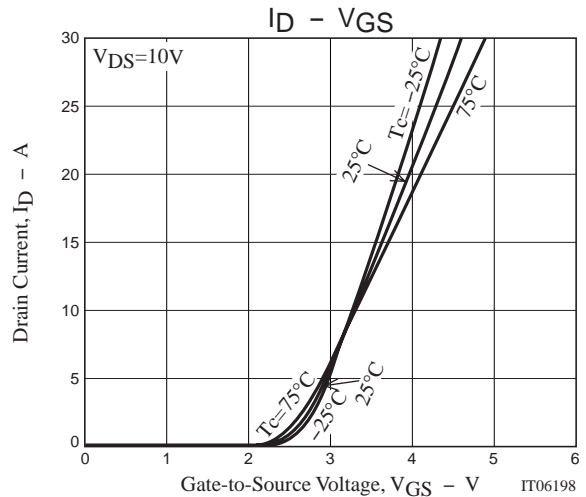
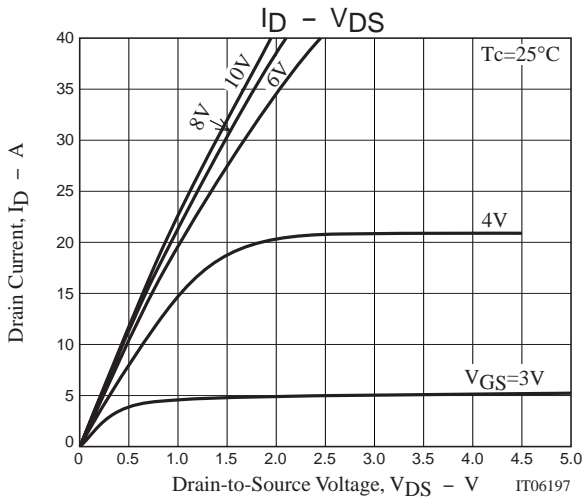
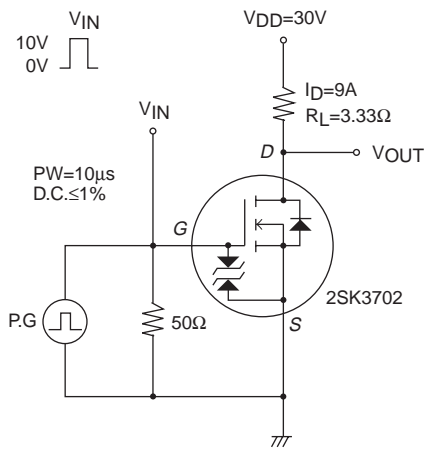
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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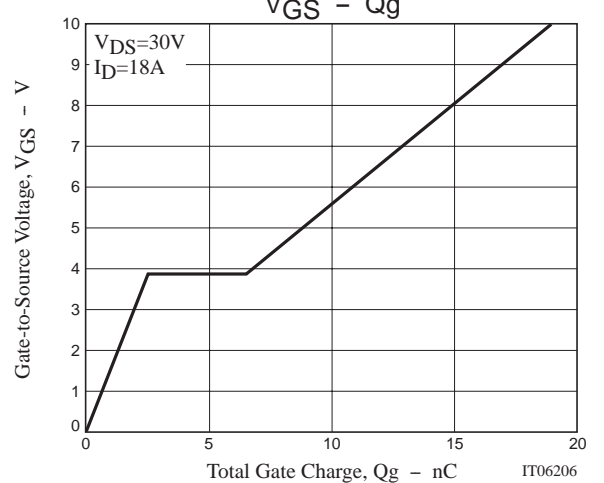
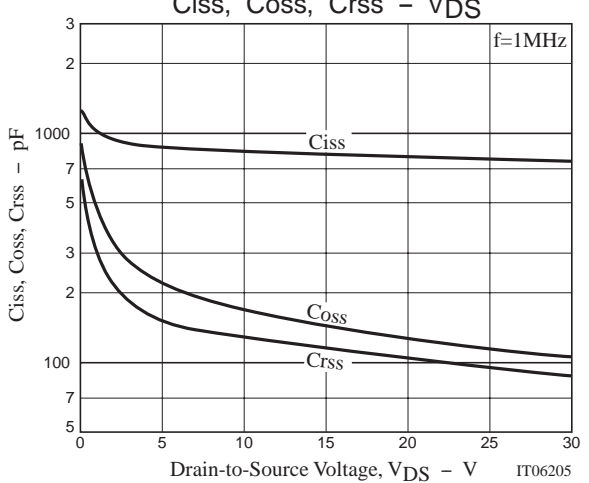
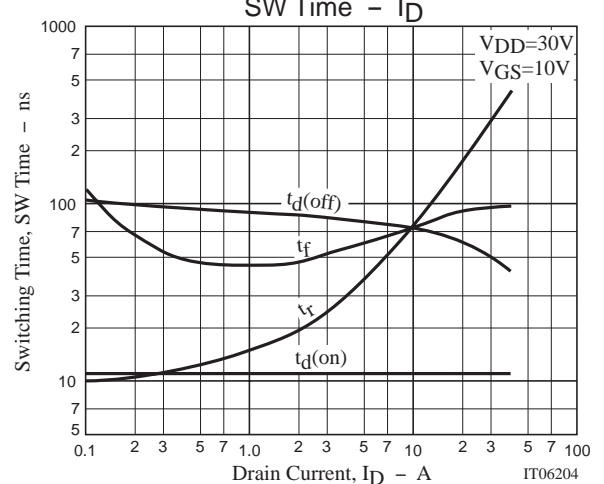
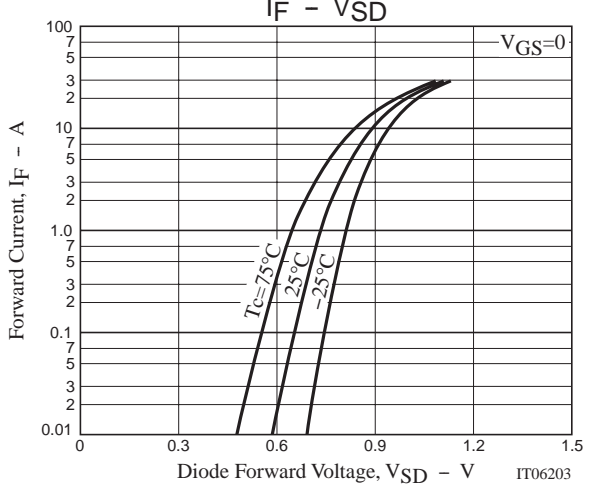
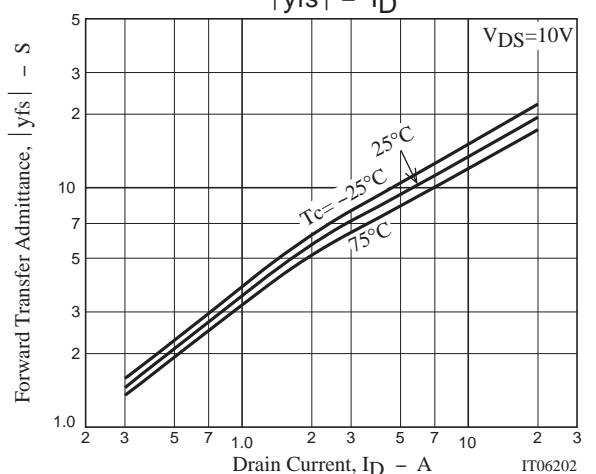
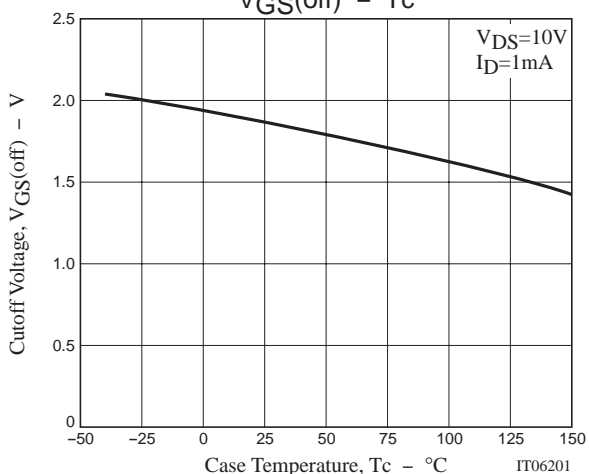
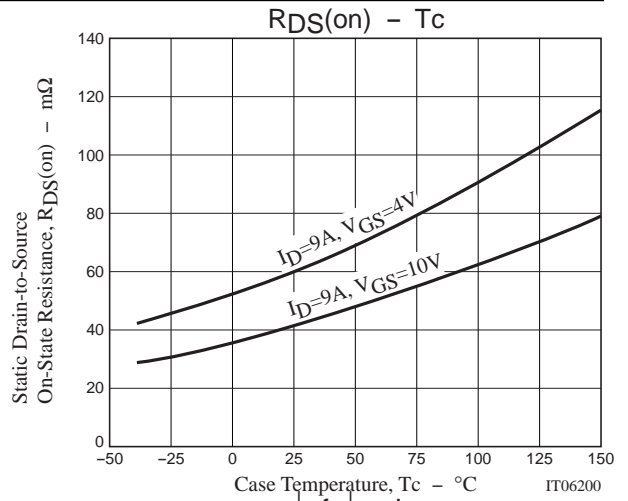
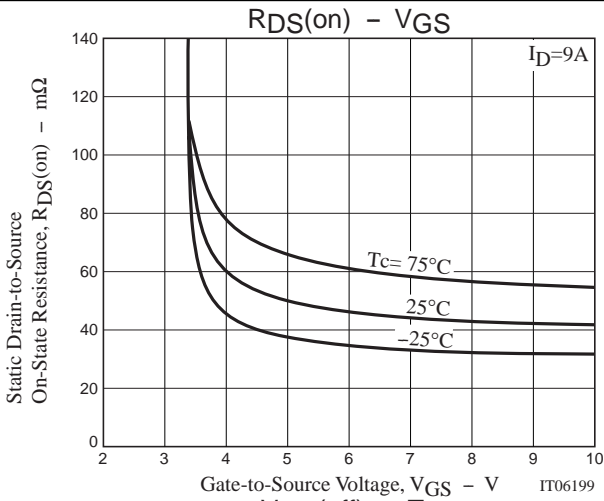
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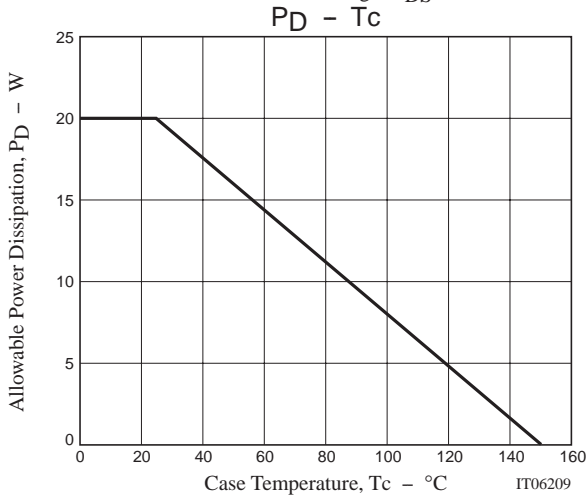
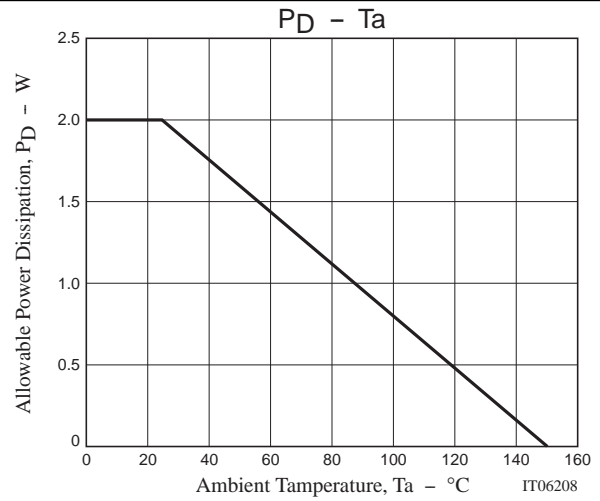
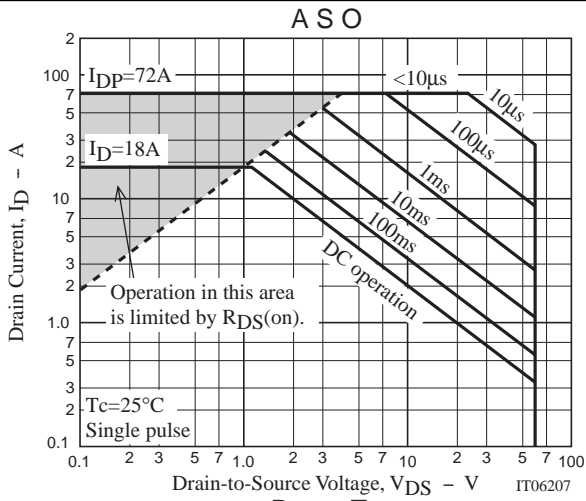
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=9A, V_{GS}=10V$		42	55	$m\Omega$
	$R_{DS(on)2}$	$I_D=9A, V_{GS}=4V$		60	85	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		775		$pF$
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		125		$pF$
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		105		$pF$
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		11		ns
Rise Time	$t_r$	See specified Test Circuit.		65		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		75		ns
Fall Time	$t_f$	See specified Test Circuit.		70		ns
Total Gate Charge	$Q_g$	$V_{DS}=30V, V_{GS}=10V, I_D=18A$		19		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=30V, V_{GS}=10V, I_D=18A$		2.5		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=30V, V_{GS}=10V, I_D=18A$		4.1		nC
Diode Forward Voltage	$V_{SD}$	$I_S=18A, V_{GS}=0$		0.98	1.2	V

## Switching Time Test Circuit



# 2SK3702





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