



2SK3702

DC / DC Converter Applications

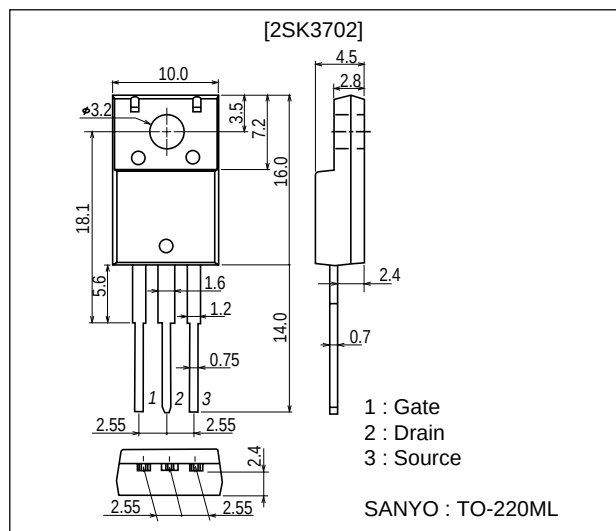
Features

- 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 _{DSS}		60	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		18	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	72	A
Allowable Power Dissipation	P _D		2.0	W
		Tc=25°C	20	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at $T_a=25^\circ\text{C}$

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}	$V_{DS}=60V, V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V, V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=9A$	8	12		S

Marking : K3702

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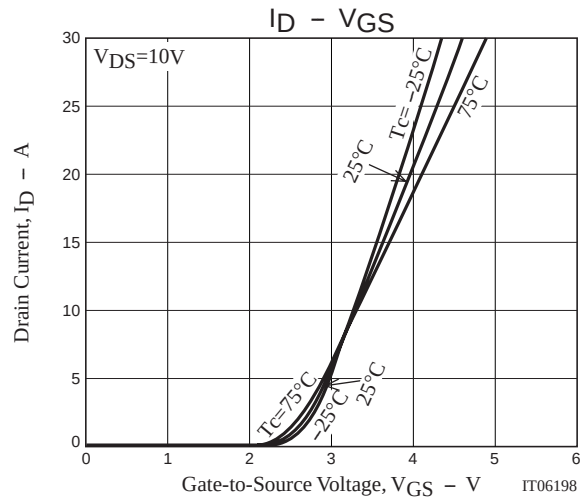
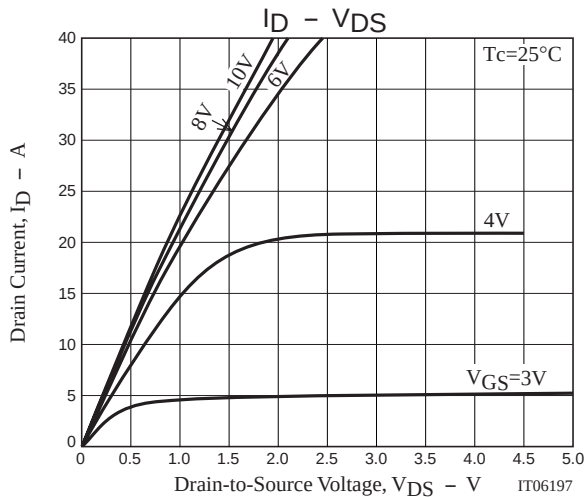
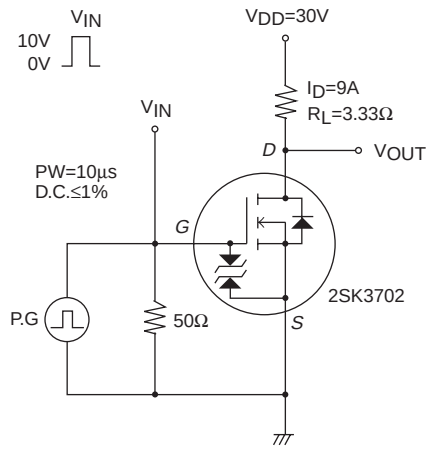
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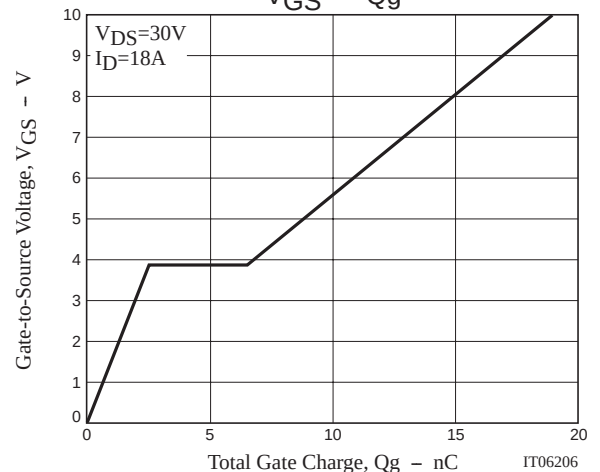
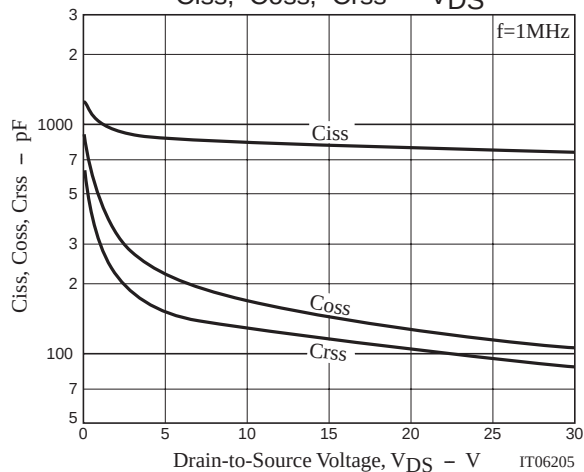
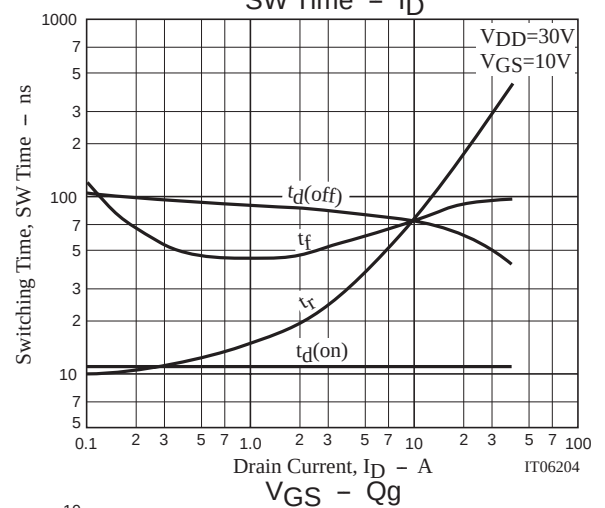
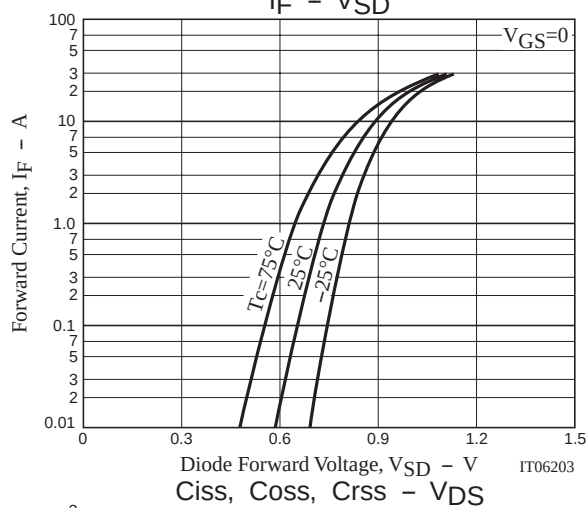
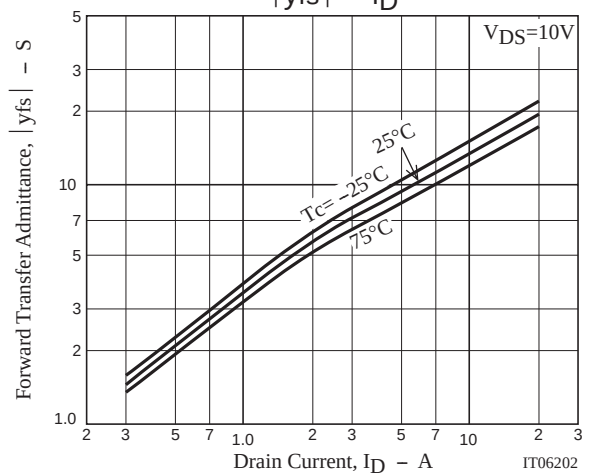
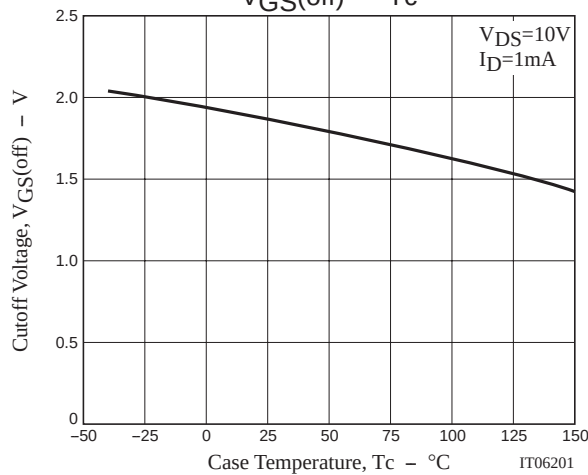
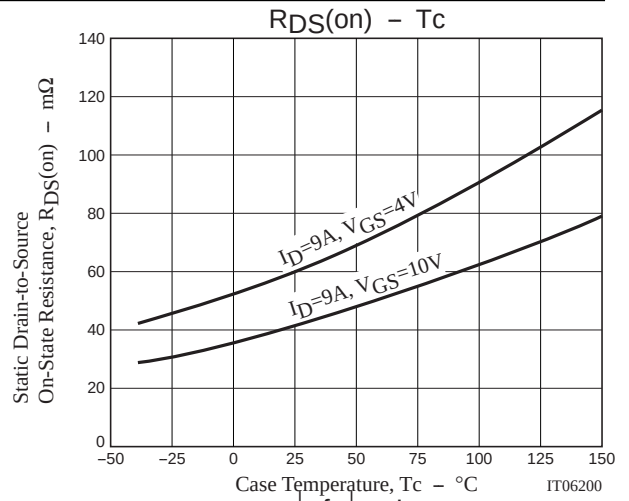
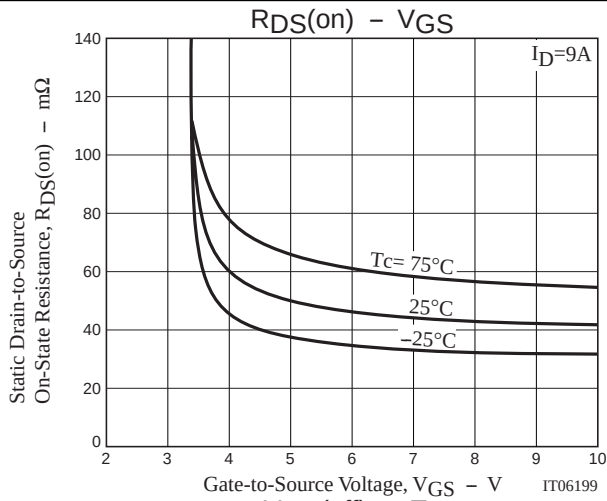
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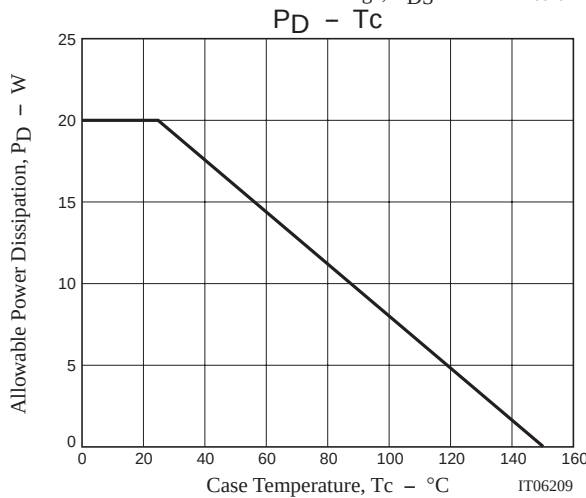
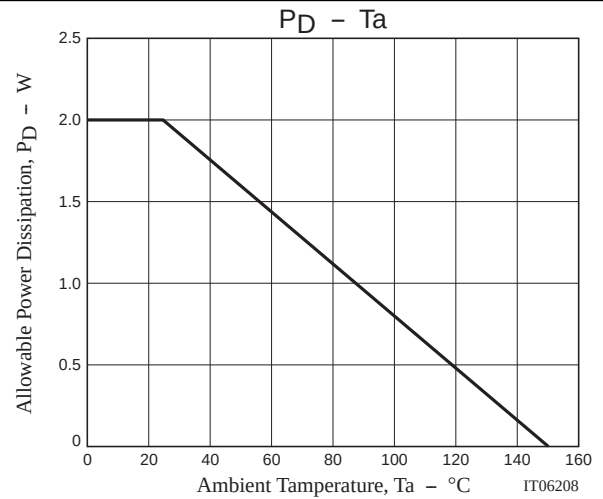
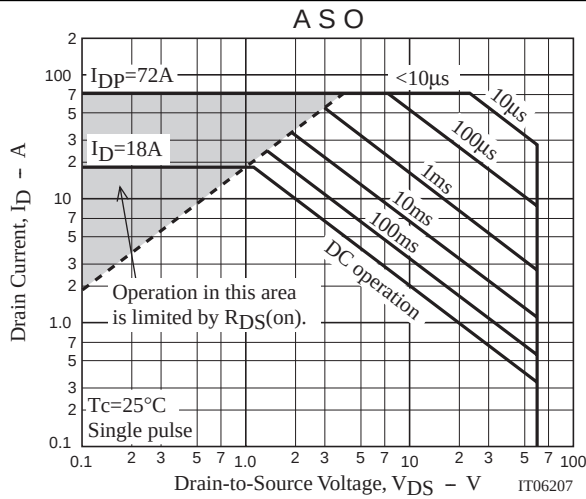
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=9A, V_{GS}=10V$		42	55	$m\Omega$
	$R_{DS(on)2}$	$I_D=9A, V_{GS}=4V$		60	85	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		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







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