



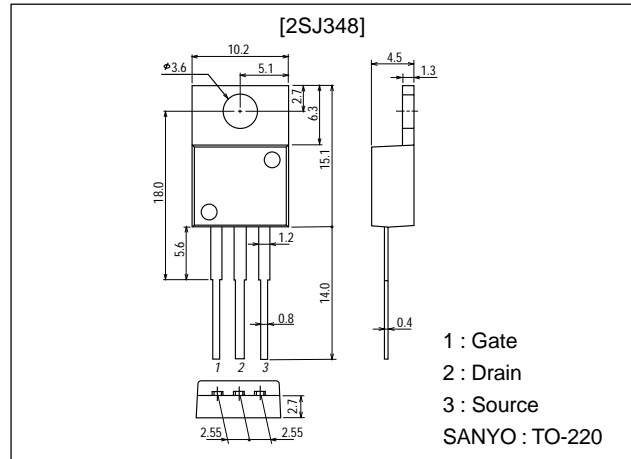
**Ultrahigh-Speed Switching Applications**

**Features**

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

**Package Dimensions**

unit:mm  
2052C



**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>		-30	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-120	A
Allowable Power Dissipation	P <sub>D</sub>		1.75	W
		Tc=25°C	70	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
Gate-to-Source Breakdown Voltage	V <sub>(BR)GSS</sub>	I <sub>G</sub> =±100μA, V <sub>DS</sub> =0	±20			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-60V, V <sub>GS</sub> =0			-100	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		-2.0	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-15A	15	25		S
Static Drain-to-Source ON-State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> =-15A, V <sub>GS</sub> =-10V		30	40	mΩ
		I <sub>D</sub> =-15A, V <sub>GS</sub> =-4V		40	55	mΩ

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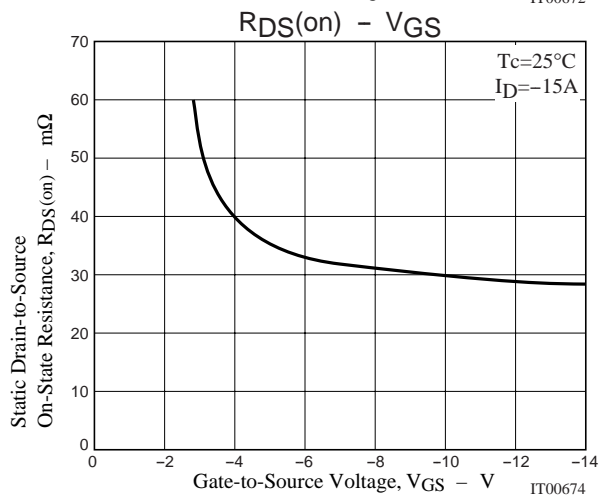
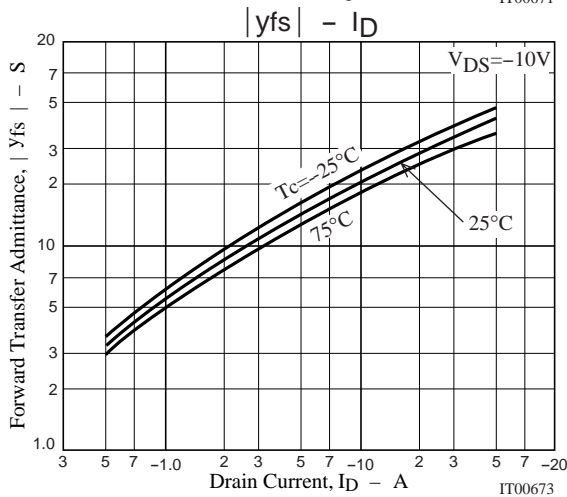
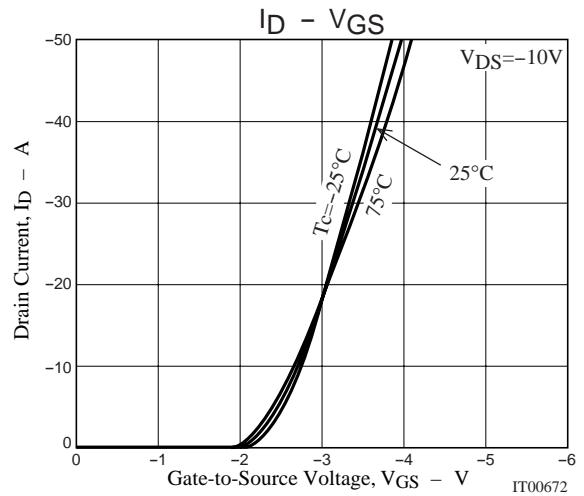
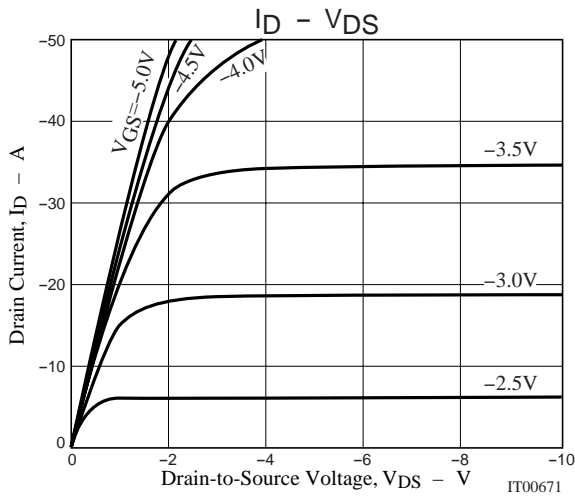
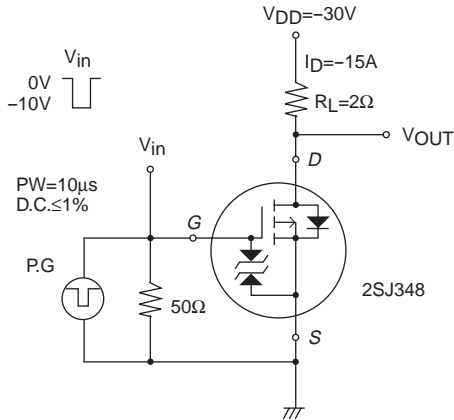
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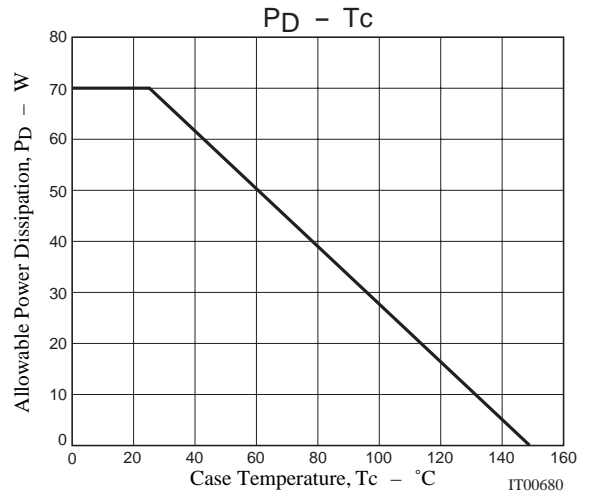
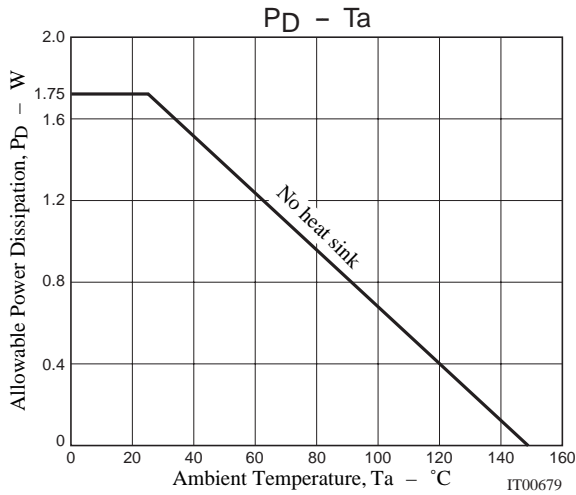
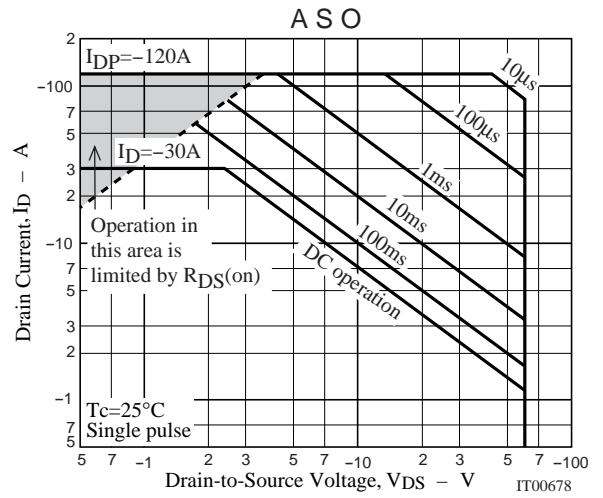
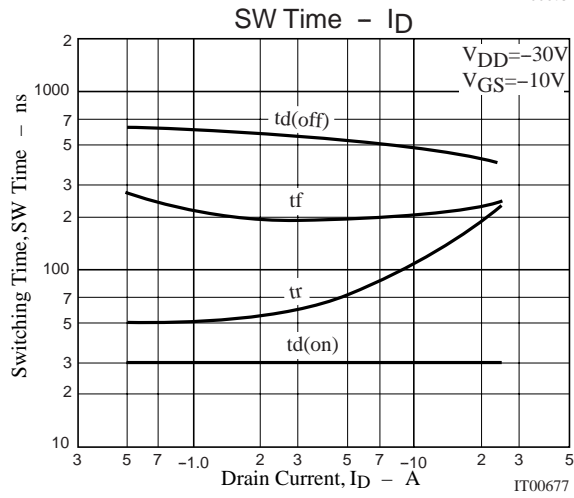
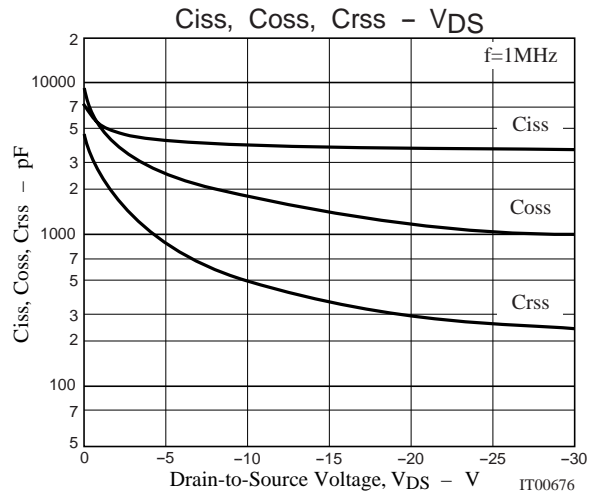
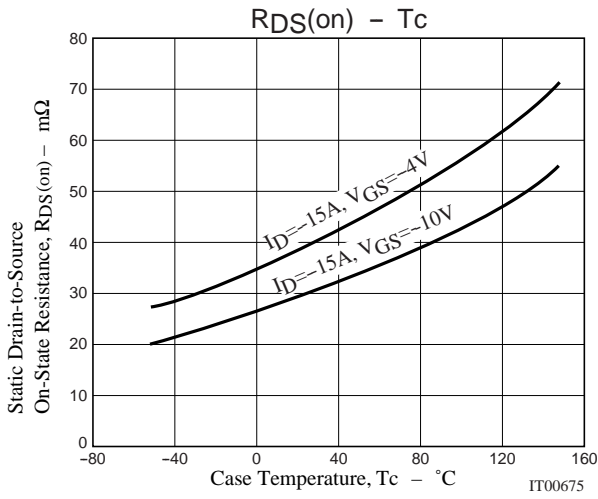
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	$C_{iss}$	$V_{DS}=-20V, f=1MHz$		3800		pF
Output Capacitance	$C_{oss}$	$V_{DS}=-20V, f=1MHz$		1200		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=-20V, f=1MHz$		300		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		30		ns
Rise Time	$t_r$	See specified Test Circuit		150		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		450		ns
Fall Time	$t_f$	See specified Test Circuit		220		ns
Diode Forward Voltage	$V_{SD}$	$I_S=-30A, V_{GS}=0$		-1.0	-1.5	V

## Switching Time Test Circuit



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