

**2SK2378**

Ultrahigh-Speed Switching Applications

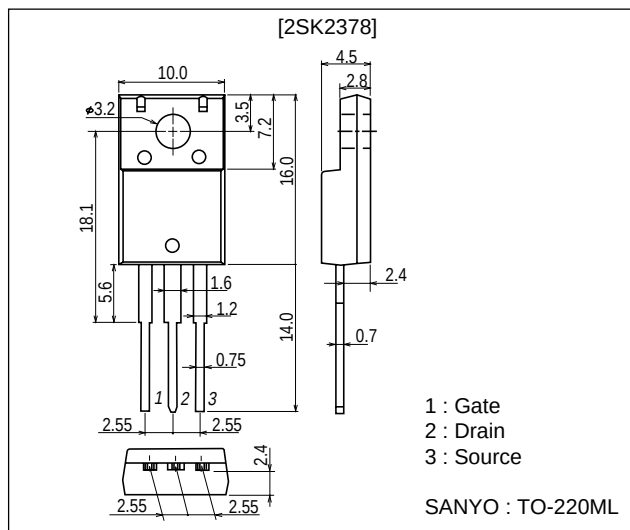
Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- Low-voltage drive.
- Micaless package facilitating mounting.

Package Dimensions

unit : mm

2063A



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		200	V
Gate-to-Source Voltage	V_{GS}		±20	V
Drain Current (DC)	I_D		13	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	52	A
Allowable Power Dissipation	PD		2.0	W
		Tc=25°C	30	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	200			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G=±100μA, V_{DS}=0$	±20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=200V, V_{GS}=0$			100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=±16V, V_{DS}=0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.5		2.5	V
Forward Transfer Admittance	yfs	$V_{DS}=10V, I_D=7A$	5	8.5		S

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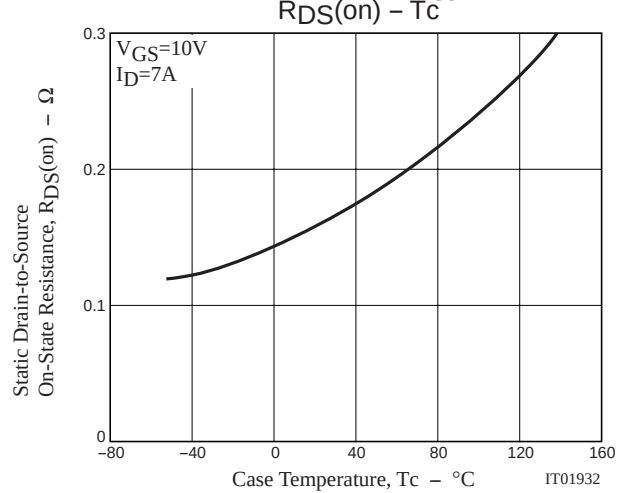
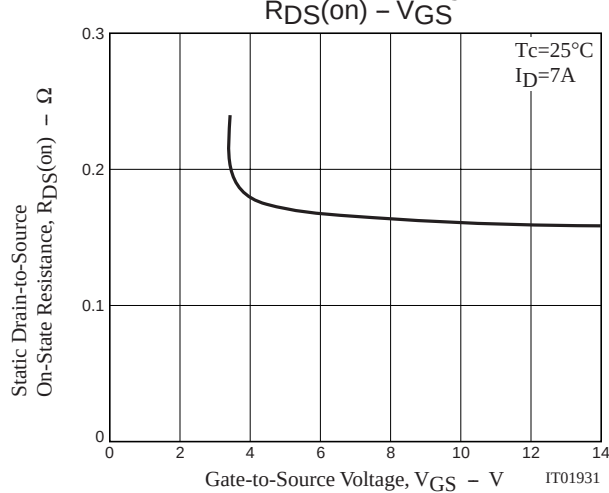
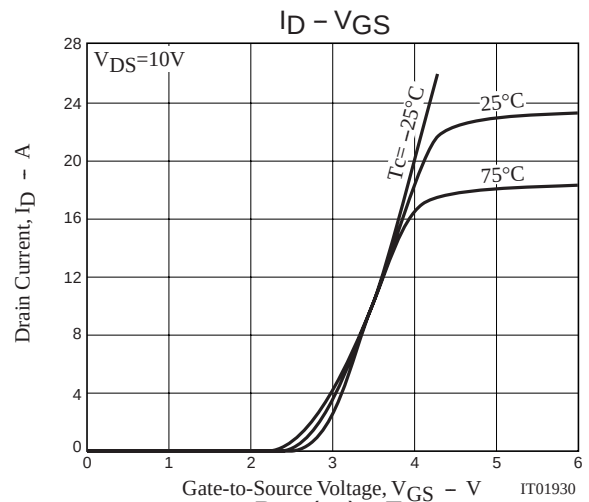
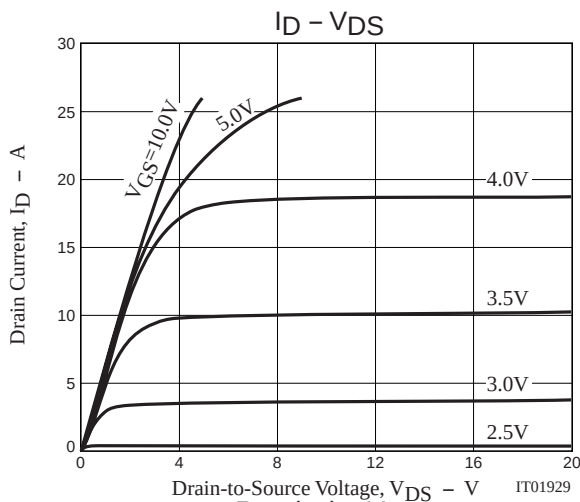
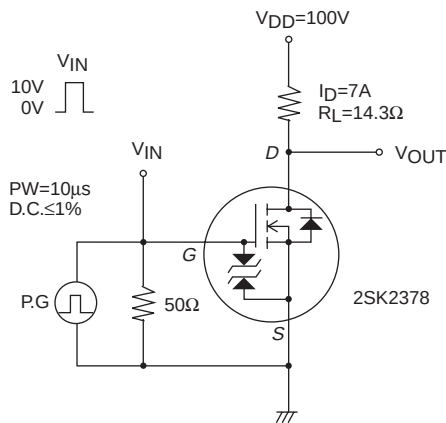
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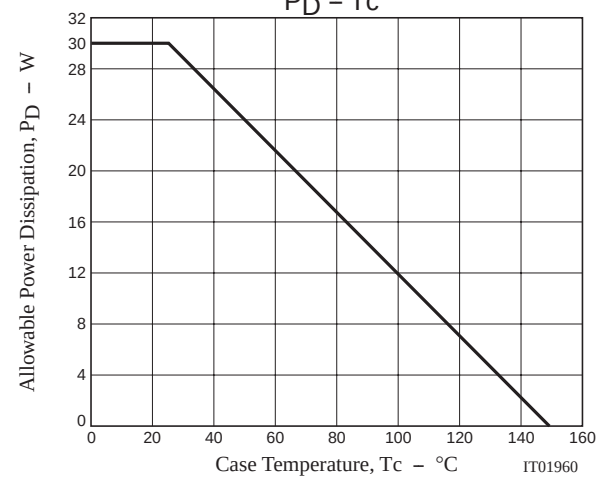
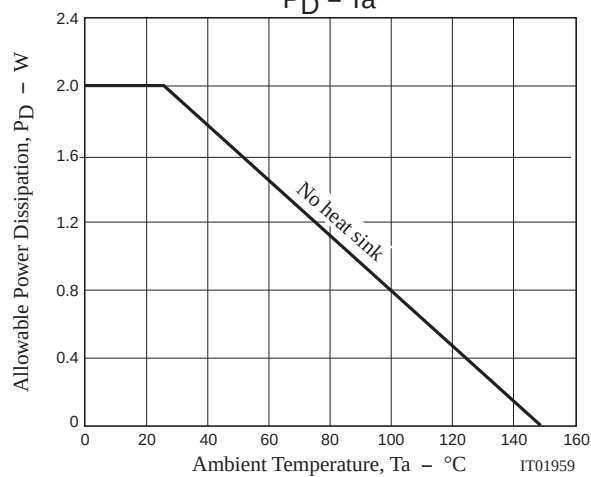
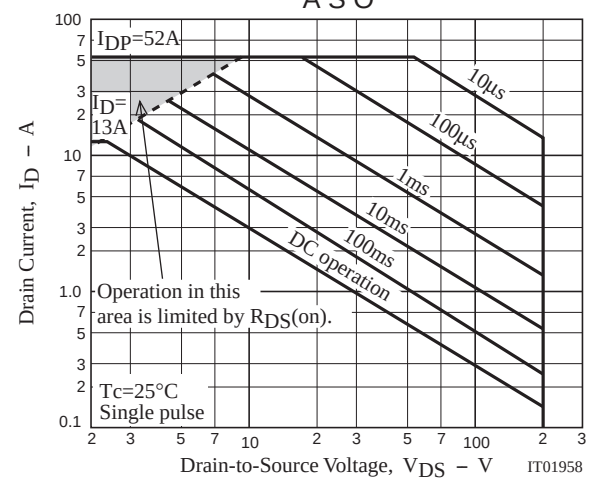
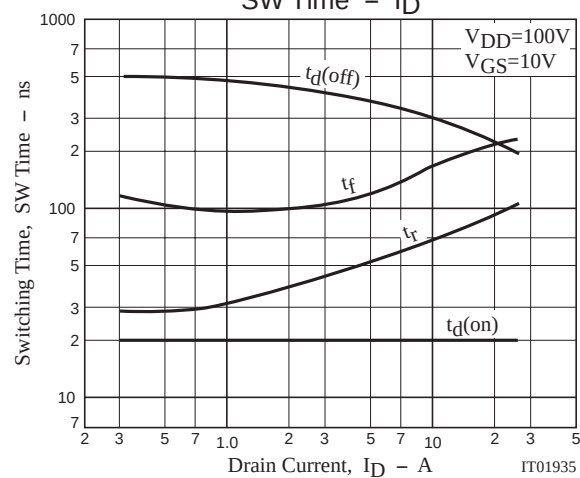
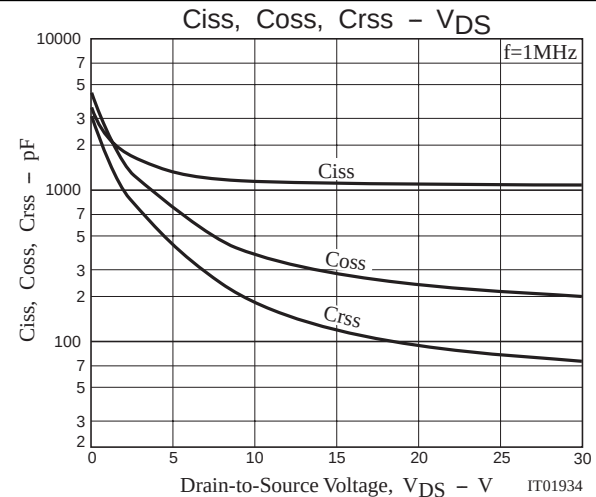
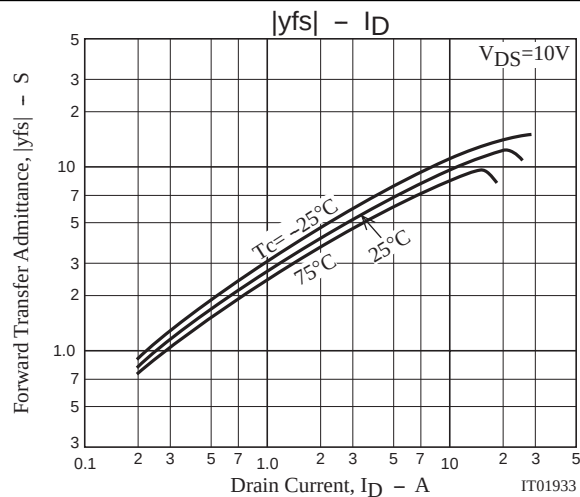
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=7A, V_{GS}=10V$		160	210	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		1100		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		240		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		95		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		20		ns
Rise Time	t_r	See specified Test Circuit		50		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		340		ns
Fall Time	t_f	See specified Test Circuit		140		ns
Diode Forward Voltage	V_{SD}	$I_S=13A, V_{GS}=0$		1.0	1.5	V

Marking : K2378

Switching Time Test Circuit





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