

**2SK2378**

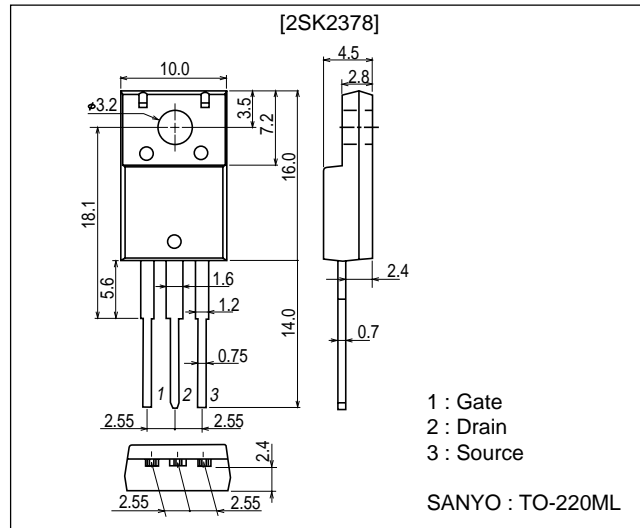
## Ultrahigh-Speed Switching Applications

### 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 <sub>DSS</sub>		200	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		13	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	52	A
Allowable Power Dissipation	PD		2.0	W
		T <sub>c</sub> =25°C	30	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	200			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> =200V, 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	1.5		2.5	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =7A	5	8.5		S

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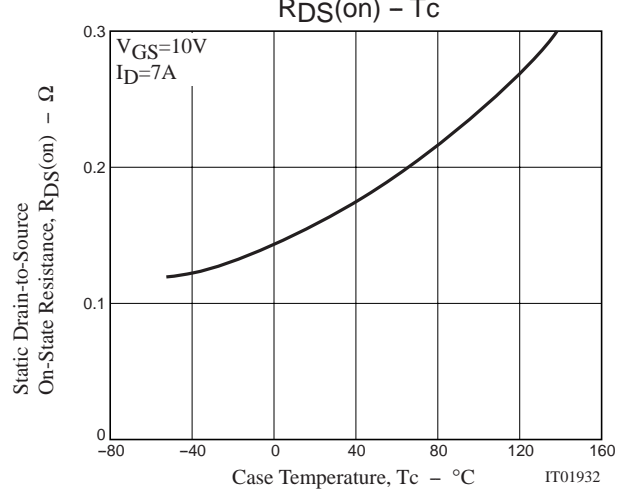
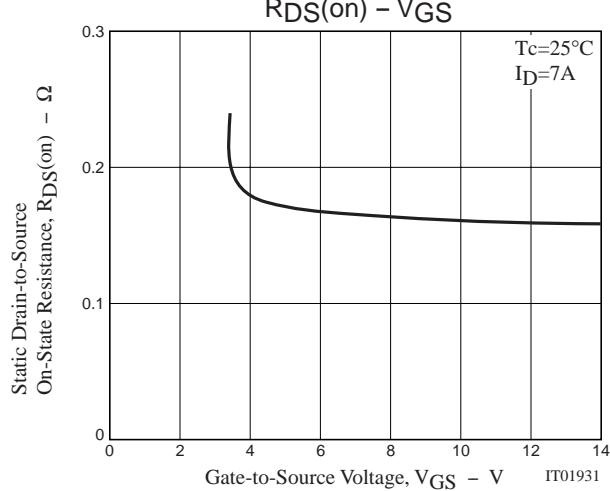
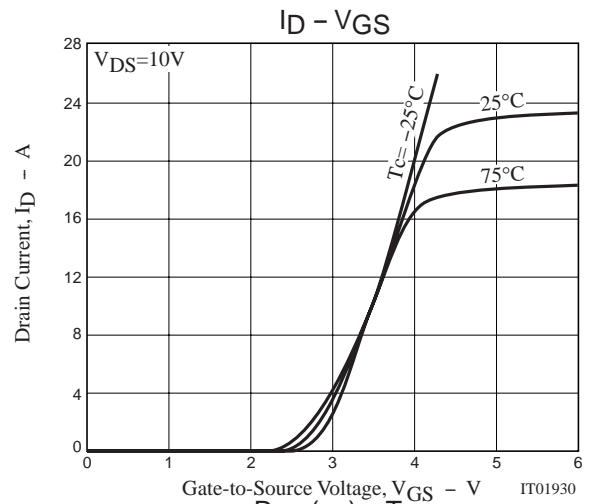
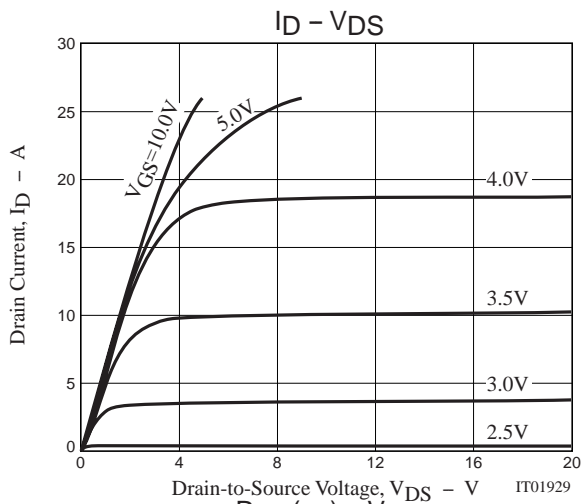
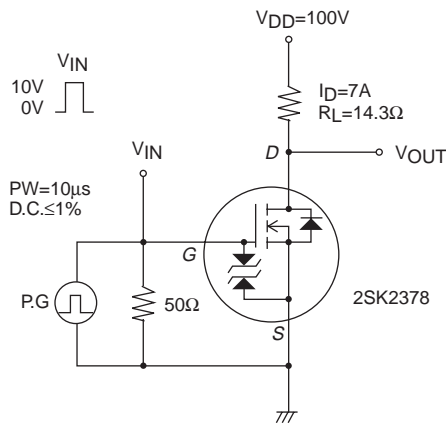
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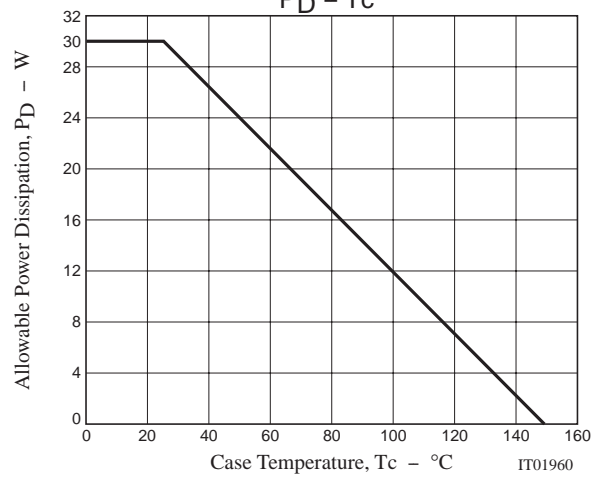
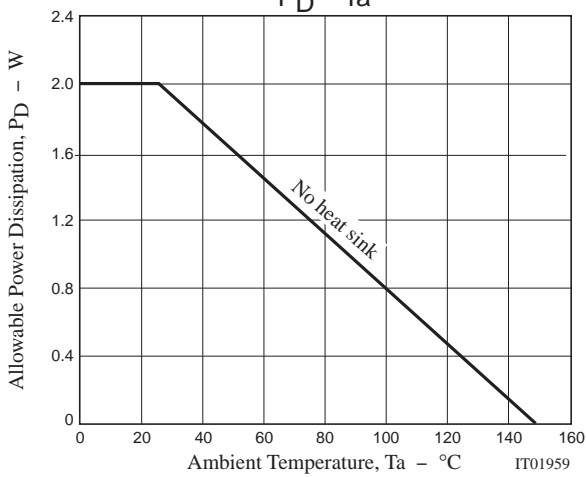
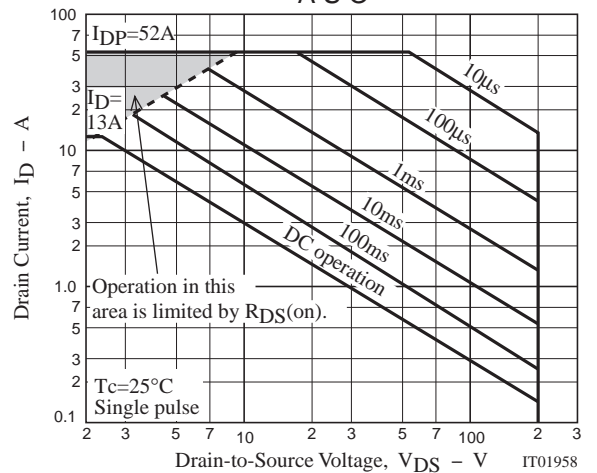
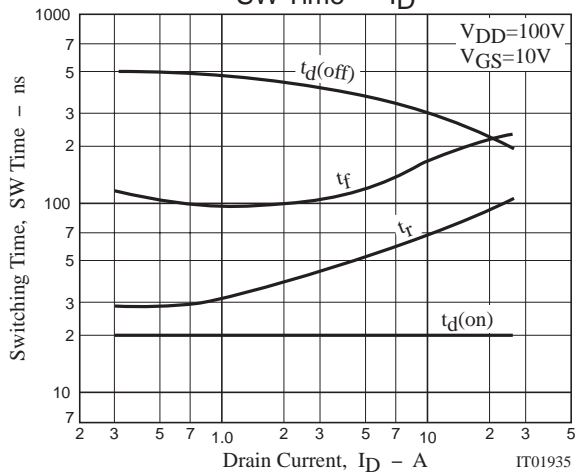
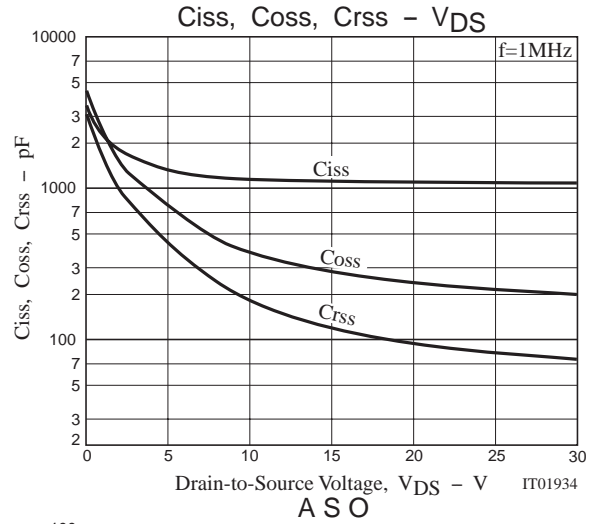
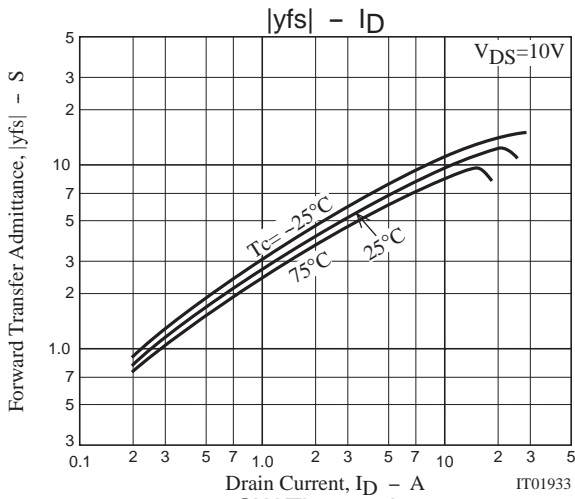
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=7A, V_{GS}=10V$		160	210	m $\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		1100		pF
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		240		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		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



# 2SK2378



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