



# 2SK3279

N-Channel Silicon MOSFET

## DC / DC Converter Applications

### Features

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

### Specifications

Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		30	V
Gate-to-Source Voltage	$V_{GS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		15	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	45	A
Allowable Power Dissipation	$P_D$		1	W
		$T_c=25^\circ\text{C}$	20	W
Channel Temperature	$T_{ch}$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$ , $V_{GS}=0$	30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=30\text{V}$ , $V_{GS}=0$			1	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16\text{V}$ , $V_{DS}=0$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$ , $I_D=1\text{mA}$	1.0		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$ , $I_D=10\text{A}$	9	14		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=10\text{A}$ , $V_{GS}=10\text{V}$		22	29	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=4\text{A}$ , $V_{GS}=4.5\text{V}$		30	42	$\text{m}\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=10\text{V}$ , $f=1\text{MHz}$		750		pF
Output Capacitance	$C_{oss}$	$V_{DS}=10\text{V}$ , $f=1\text{MHz}$		300		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10\text{V}$ , $f=1\text{MHz}$		120		pF

Marking : K3279

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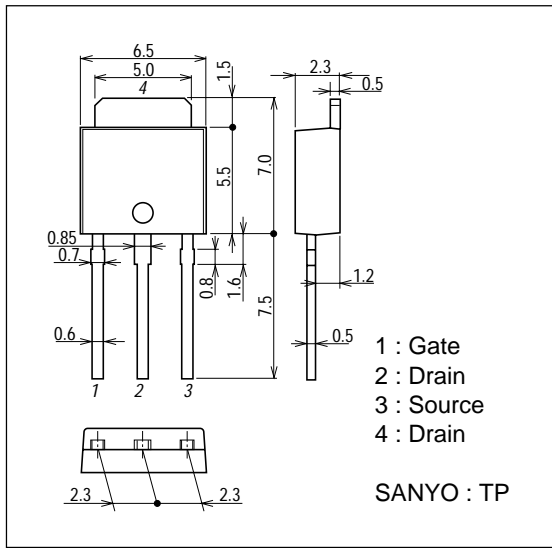
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		10		ns
Rise Time	$t_r$	See specified Test Circuit.		220		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		48		ns
Fall Time	$t_f$	See specified Test Circuit.		61		ns
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=10V, I_D=15A$		14		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=10V, V_{GS}=10V, I_D=15A$		2.5		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=10V, V_{GS}=10V, I_D=15A$		1.3		nC
Diode Forward Voltage	$V_{SD}$	$I_S=15A, V_{GS}=0$	0.93	1.2		V

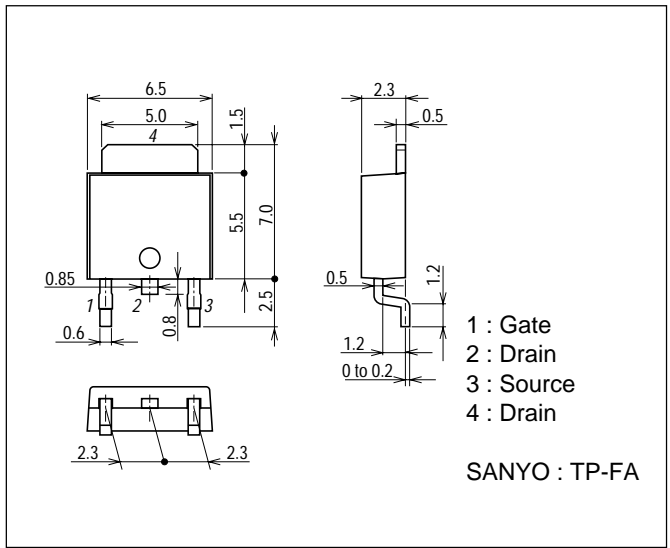
## Package Dimensions

unit : mm  
2083B

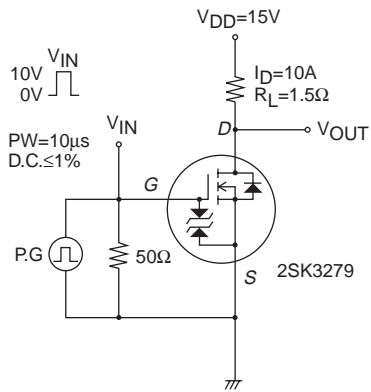


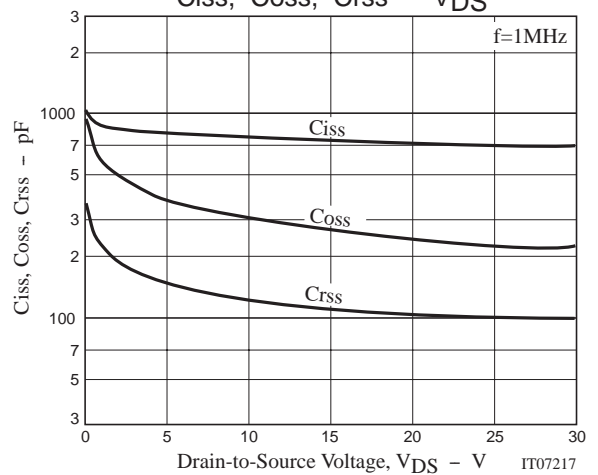
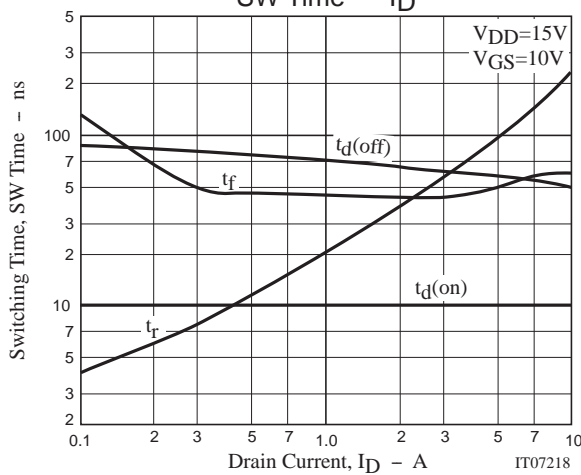
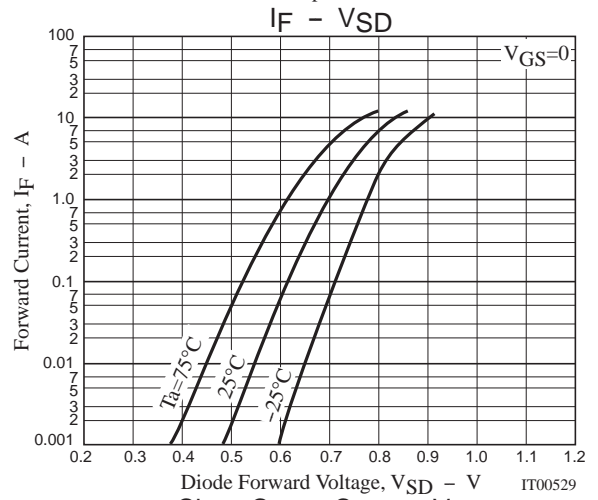
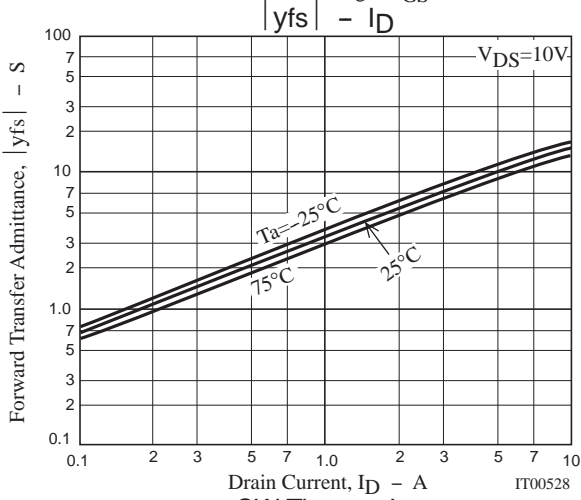
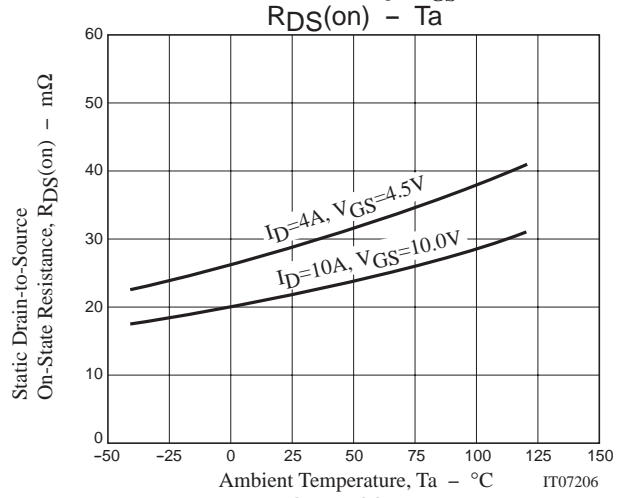
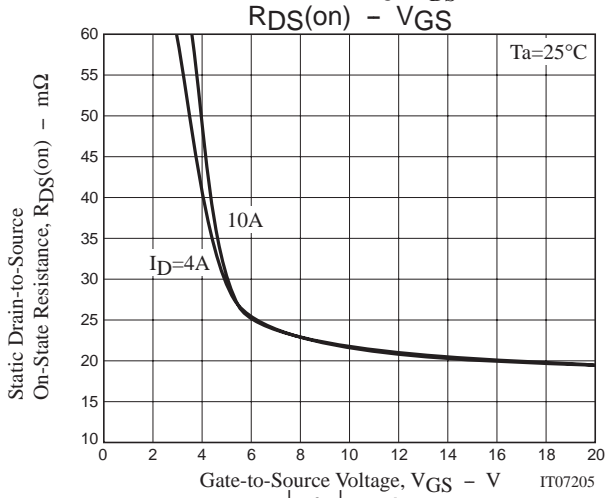
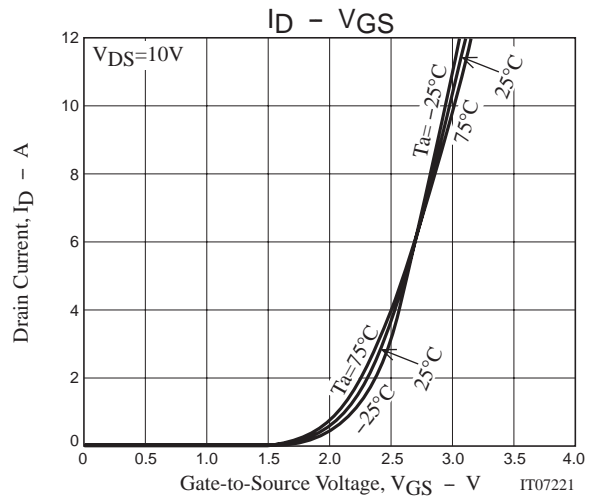
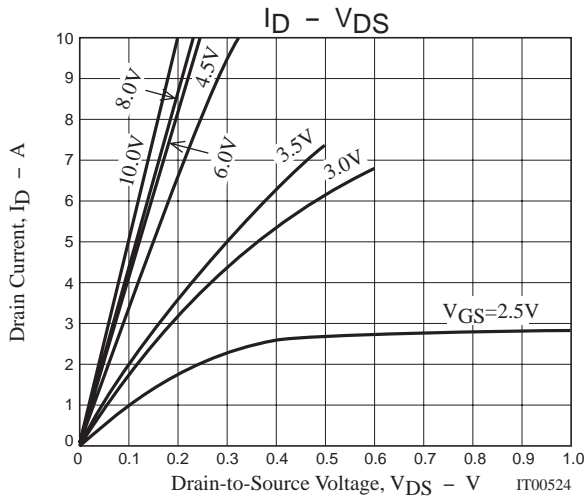
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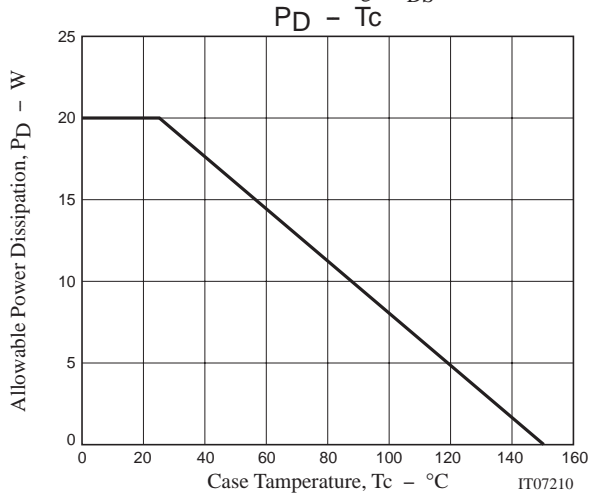
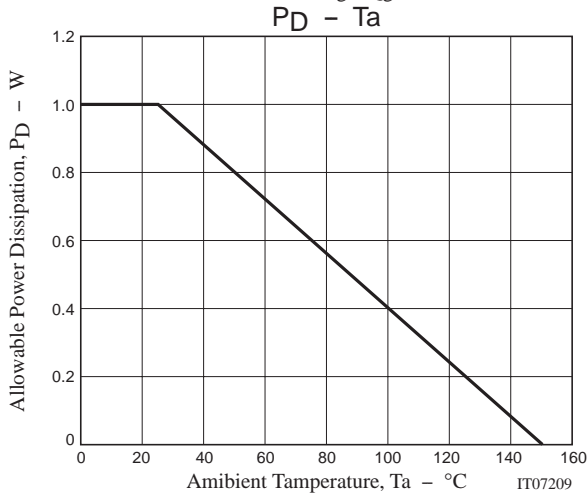
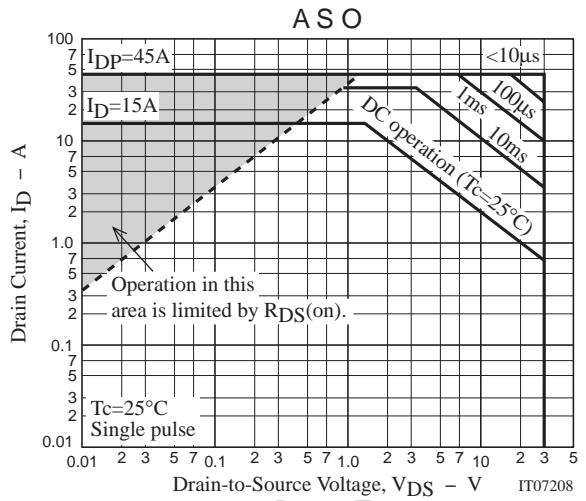
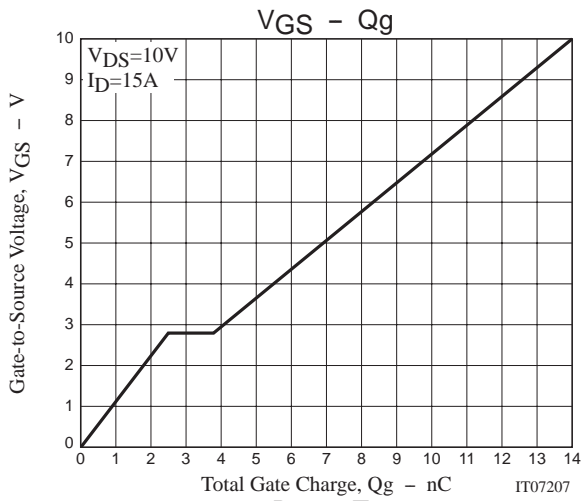
unit : mm  
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## Switching Time Test Circuit







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