



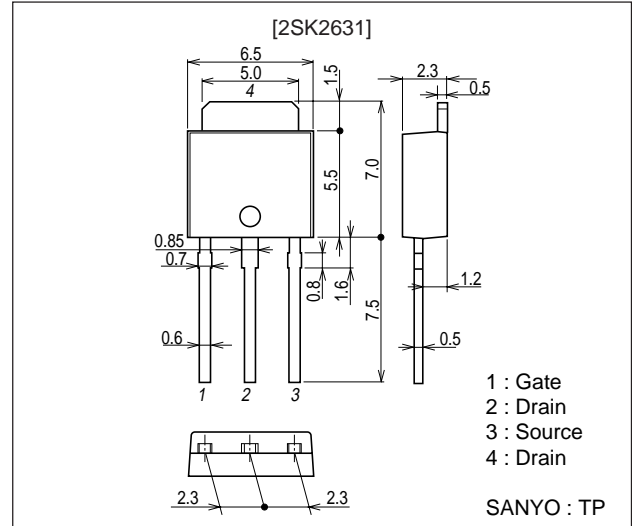
## Ultrahigh-Speed Switching Applications

### Features

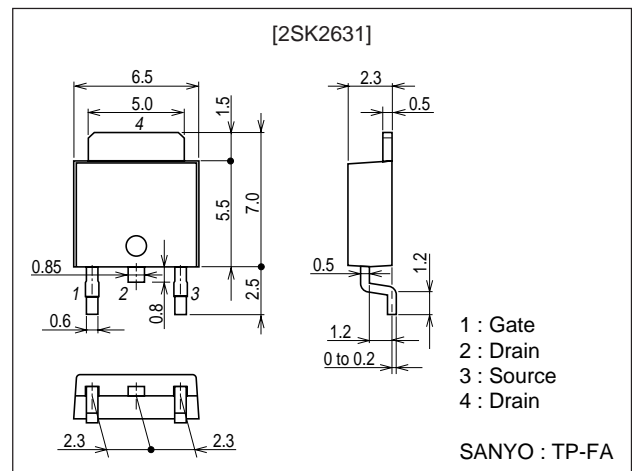
- Low ON resistance.
- Smaller amount of total gate charge.

### Package Dimensions

unit : mm  
2083B



unit : mm  
2092B



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## 2SK2631

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### Specifications

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

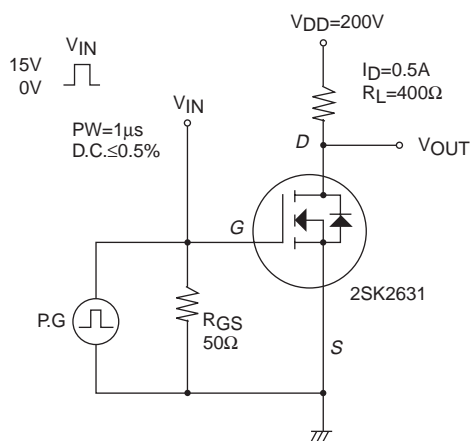
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		800	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		1	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	3	A
Allowable Power Dissipation	$P_D$	$T_c=25^\circ\text{C}$	30	W
			1.0	W
Channel Temperature	$T_{ch}$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

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

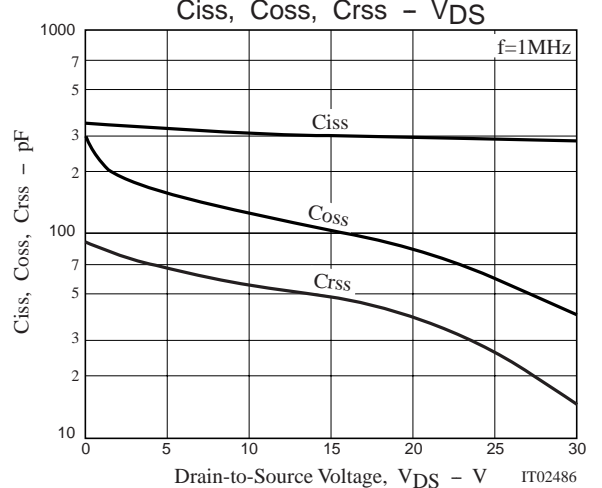
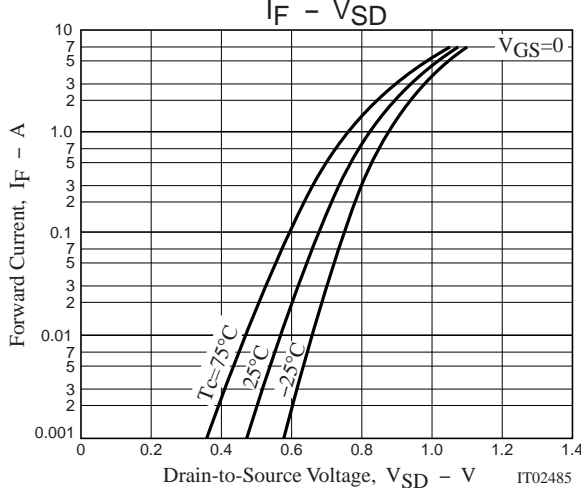
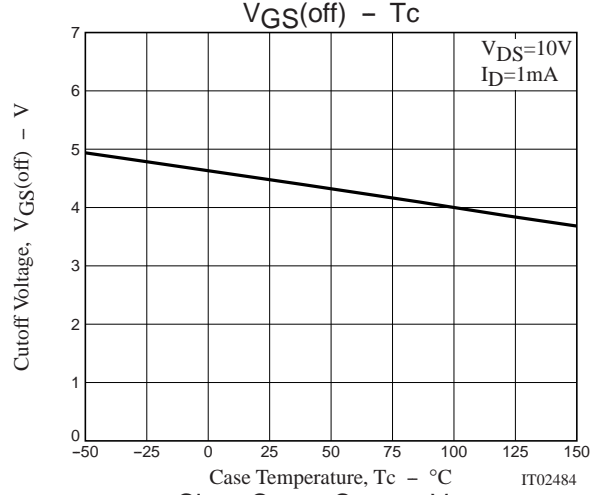
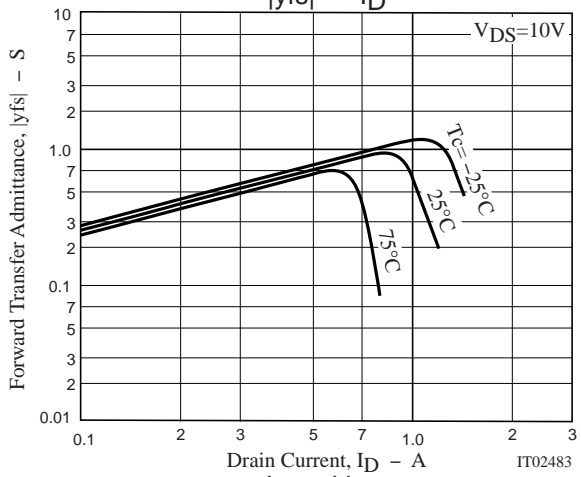
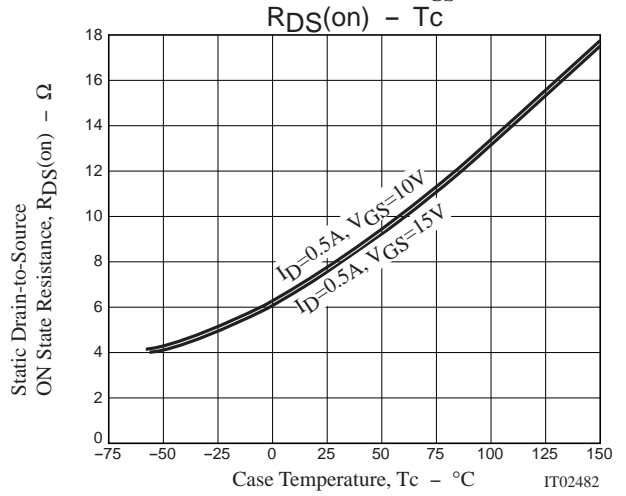
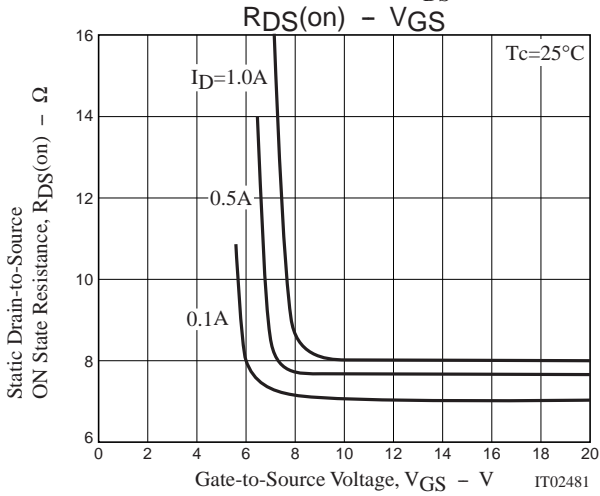
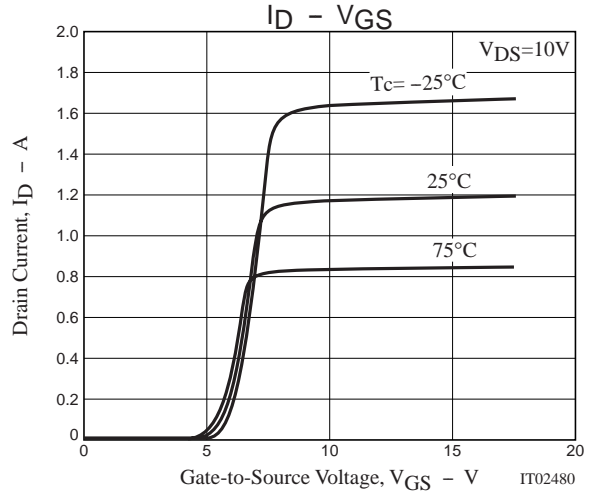
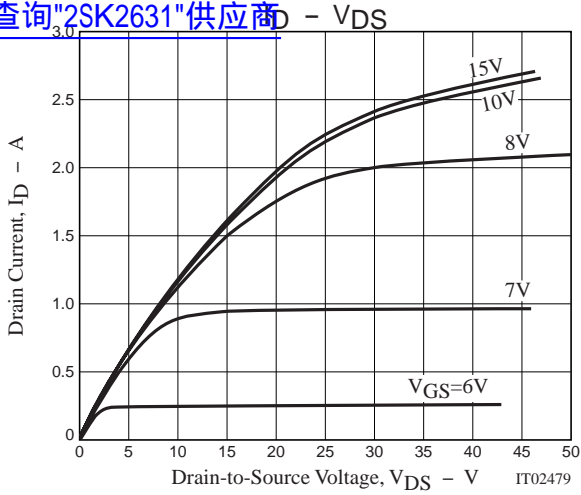
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$ , $V_{GS}=0$	800			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=800\text{V}$ , $V_{GS}=0$			1.0	mA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 30\text{V}$ , $V_{DS}=0$			$\pm 100$	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$ , $I_D=1\text{mA}$	3.5		5.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$ , $I_D=0.5\text{A}$	370	740		ms
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=0.5\text{A}$ , $V_{GS}=15\text{V}$		7.5	10	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=20\text{V}$ , $f=1\text{MHz}$		300		pF
Output Capacitance	$C_{oss}$	$V_{DS}=20\text{V}$ , $f=1\text{MHz}$		85		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20\text{V}$ , $f=1\text{MHz}$		40		pF
Total Gate Charge	$Q_g$	$V_{DS}=200\text{V}$ , $I_D=1\text{A}$ , $V_{GS}=10\text{V}$		8		nC
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		12		ns
Rise Time	$t_r$	See specified Test Circuit		8		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		27		ns
Fall Time	$t_f$	See specified Test Circuit		16		ns
Diode Forward Voltage	$V_{SD}$	$I_S=1\text{A}$ , $V_{GS}=0$		0.82	1.2	V

Marking : K2631

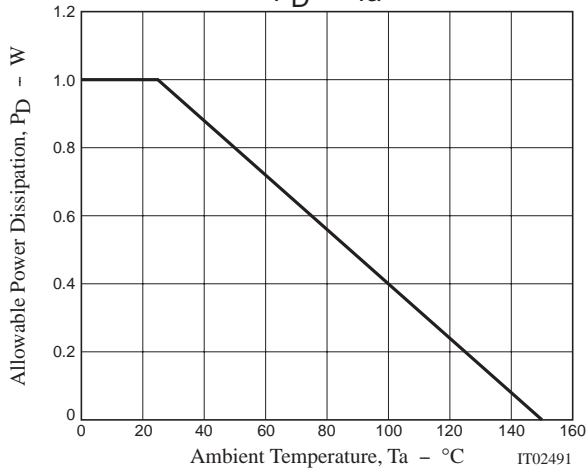
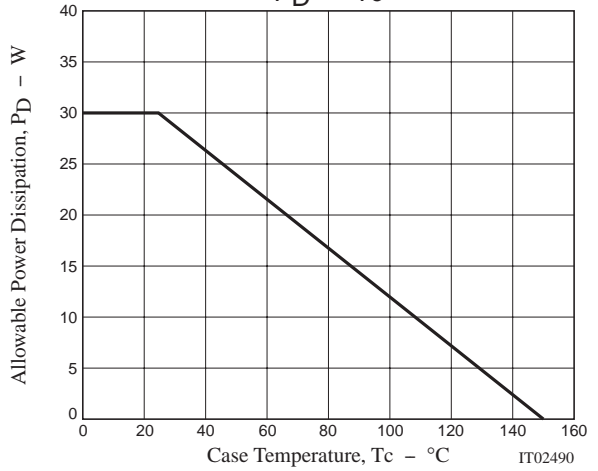
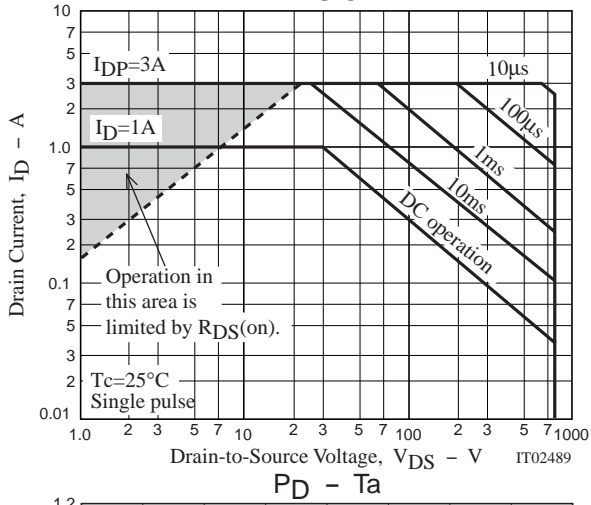
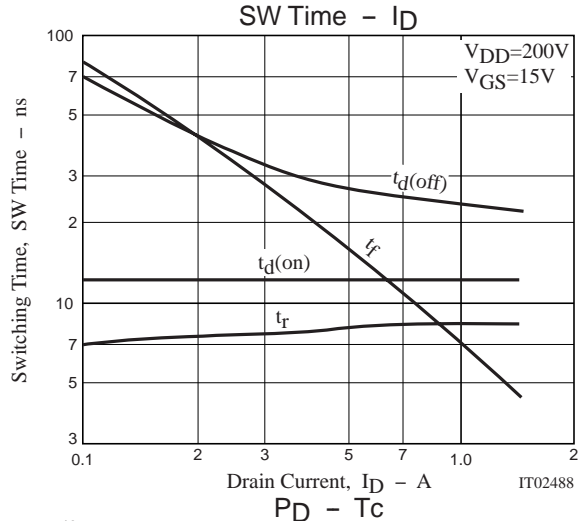
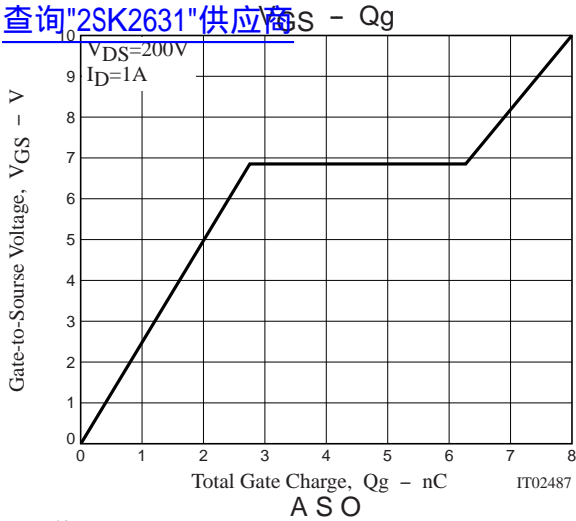
### Switching Time Test Circuit



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