

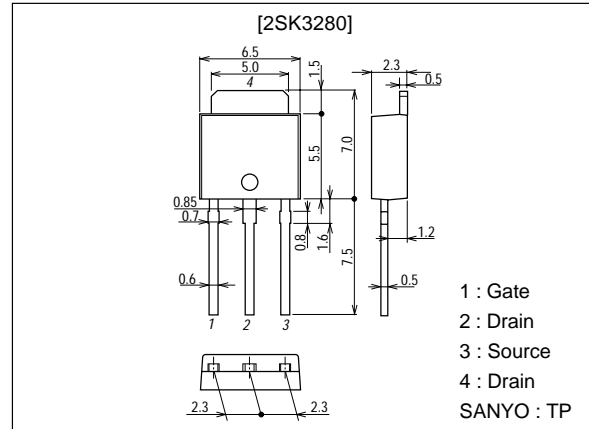
**2SK3280****DC/DC Converter Applications****Features**

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

**Package Dimensions**

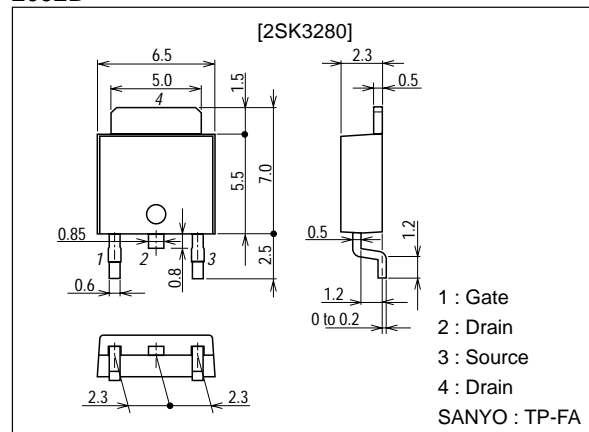
unit:mm

2083B



unit:mm

2092B



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60800TS (KOTO) TA-2615 No.6436-1/4

# 2SK3280

## Specifications

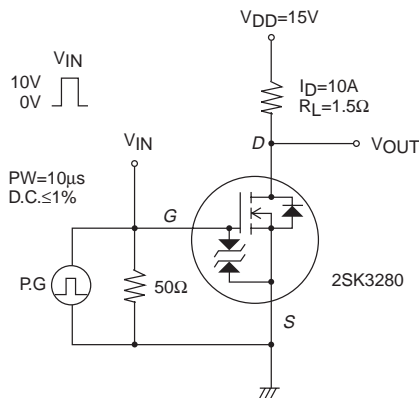
**Absolute Maximum Ratings** at Ta = 25°C

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

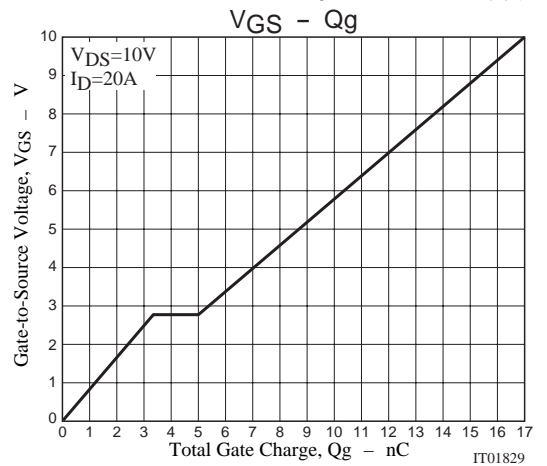
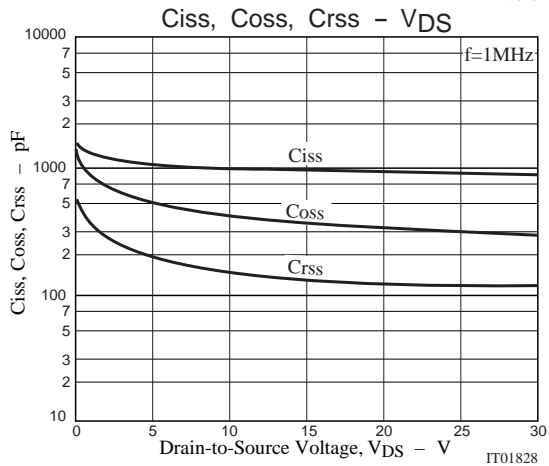
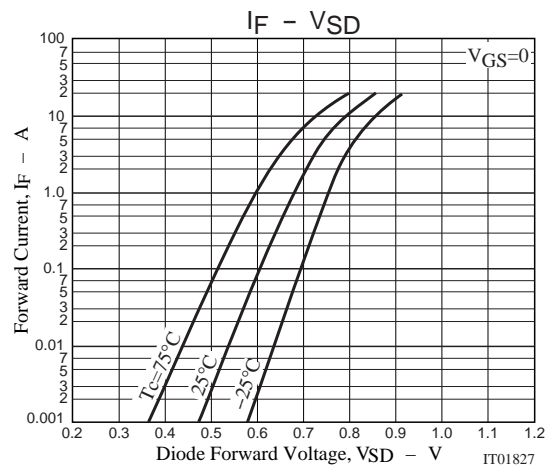
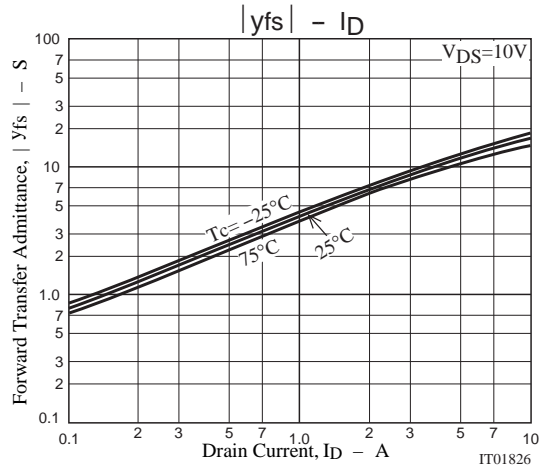
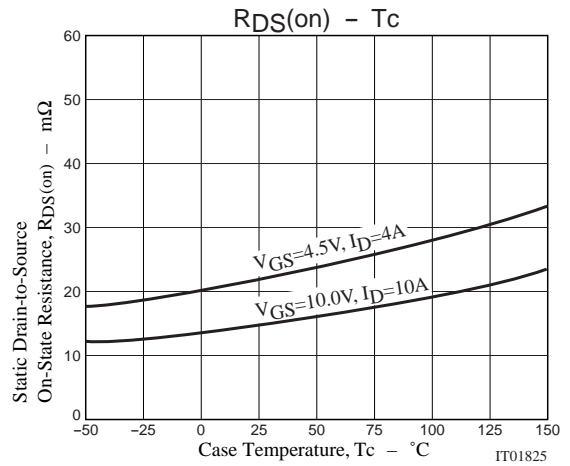
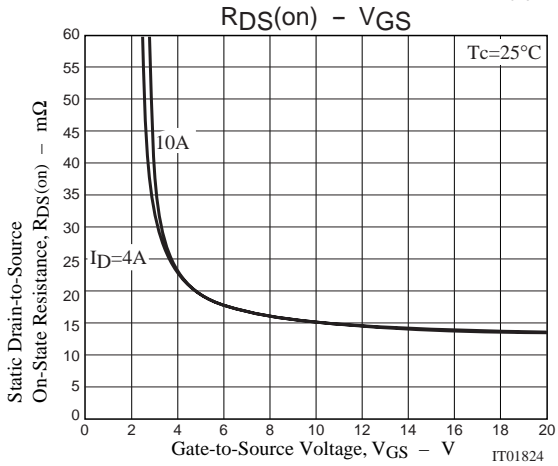
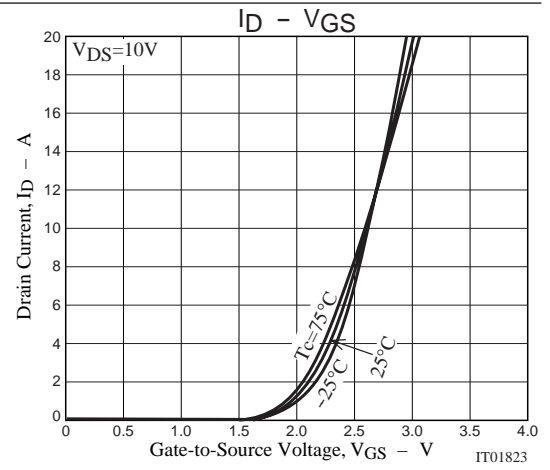
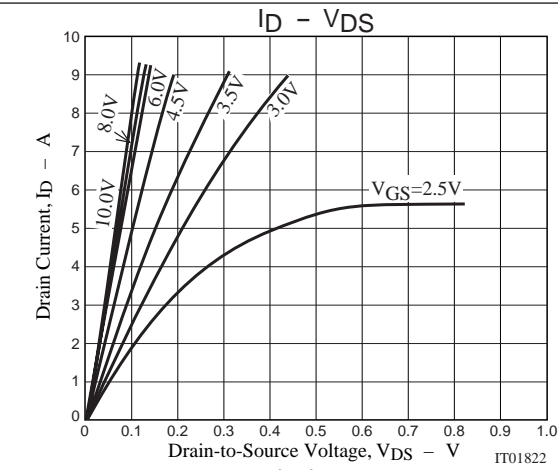
**Electrical Characteristics** at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA$ , $V_{GS} = 0$	30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 30V$ , $V_{GS} = 0$			1	μA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 16V$ , $V_{DS} = 0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$ , $I_D = 1mA$	1.0		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$ , $I_D = 10A$	12	18		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = 10A$ , $V_{GS} = 10V$		15	20	mΩ
	$R_{DS(on)2}$	$I_D = 10A$ , $V_{GS} = 4.5V$		22	31	mΩ
Input Capacitance	$C_{iss}$	$V_{DS} = 10V$ , $f = 1MHz$		1000		pF
Output Capacitance	$C_{oss}$	$V_{DS} = 10V$ , $f = 1MHz$		410		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 10V$ , $f = 1MHz$		160		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		11		ns
Rise Time	$t_r$	See specified Test Circuit		210		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		80		ns
Fall Time	$t_f$	See specified Test Circuit		85		ns
Total Gate Charge	$Q_g$	$V_{DS} = 10V$ , $V_{GS} = 10V$ , $I_D = 20A$		17		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS} = 10V$ , $V_{GS} = 10V$ , $I_D = 20A$		3.3		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS} = 10V$ , $V_{GS} = 10V$ , $I_D = 20A$		1.7		nC
Diode Forward Voltage	$V_{SD}$	$I_S = 20A$ , $V_{GS} = 0$	1.0	1.2		V

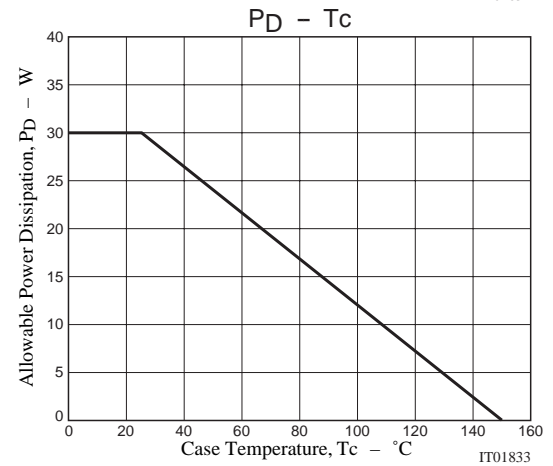
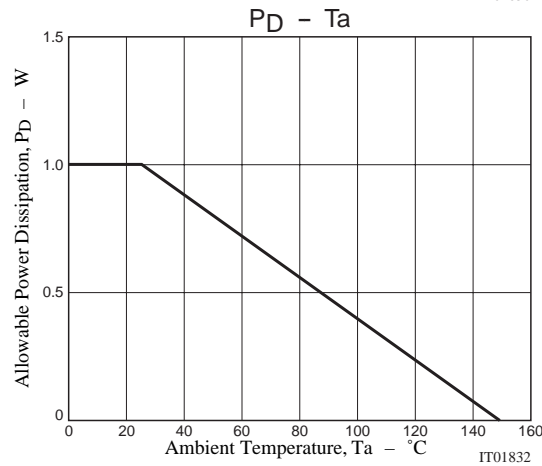
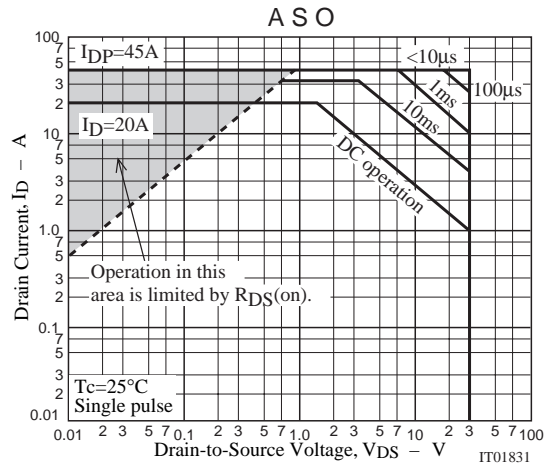
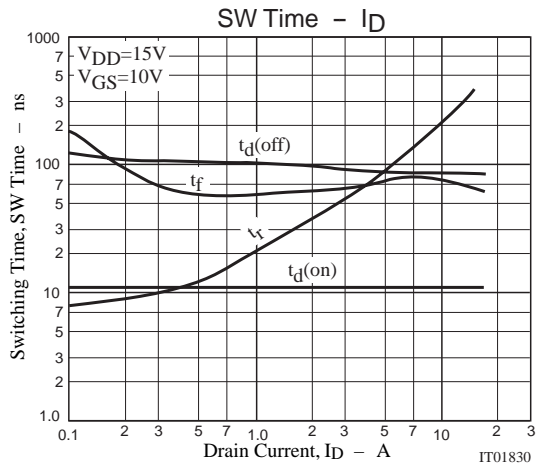
## Switching Time Test Circuit



# 2SK3280



## 2SK3280



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