

Ordering number : ENN6680

N-Channel Silicon MOSFET



2SK3278

DC/DC Converter Applications

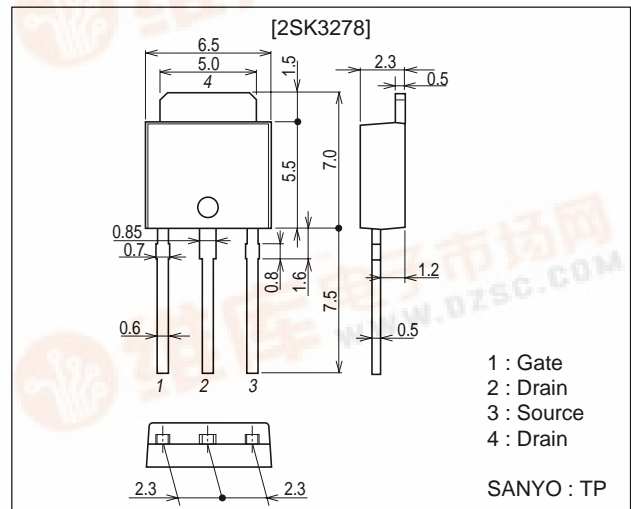
Features

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

Package Dimensions

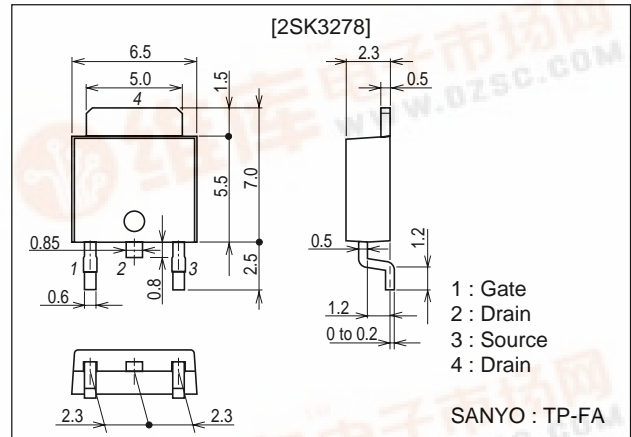
unit : mm

2083B



unit : mm

2092B



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		30	V
Gate-to-Source Voltage	VGSS		±20	V

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

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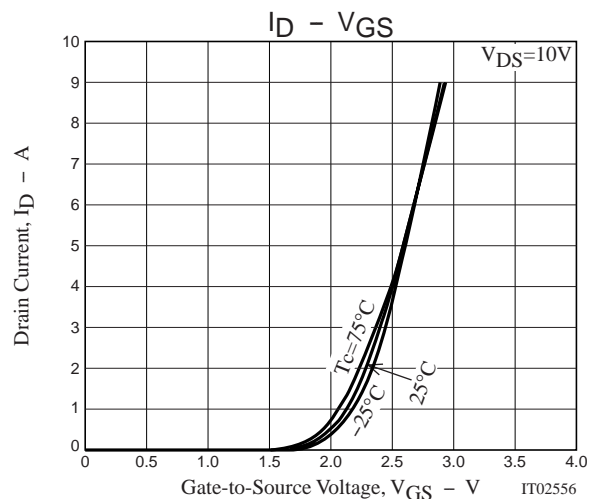
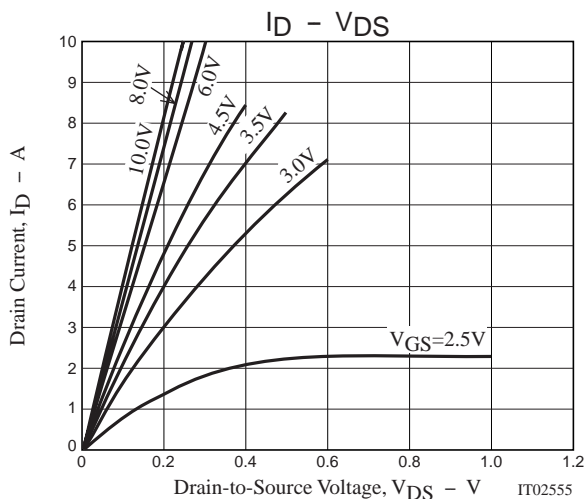
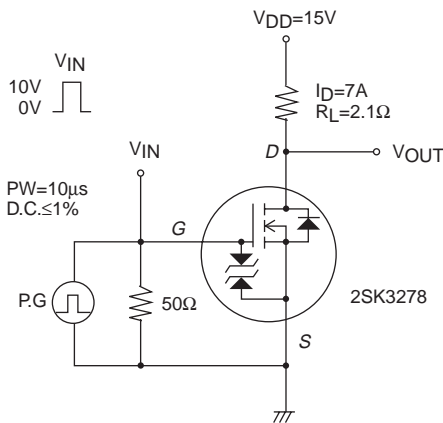
Parameter	Symbol	Conditions	Ratings	Unit
Drain Current (DC)	I_D		15	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	45	A
Allowable Power Dissipation	P_D		1	W
		$T_c = 25^\circ C$	15	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

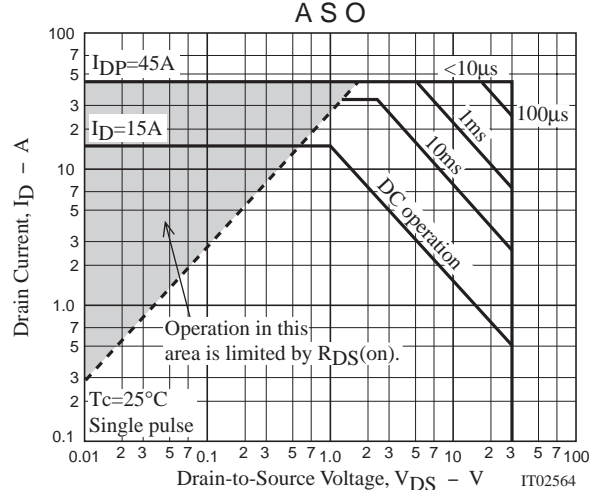
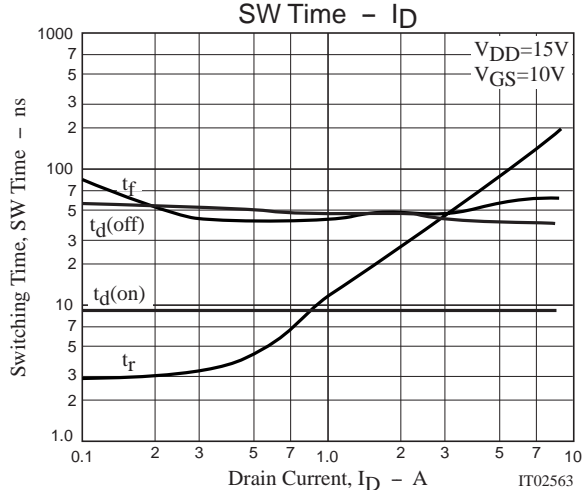
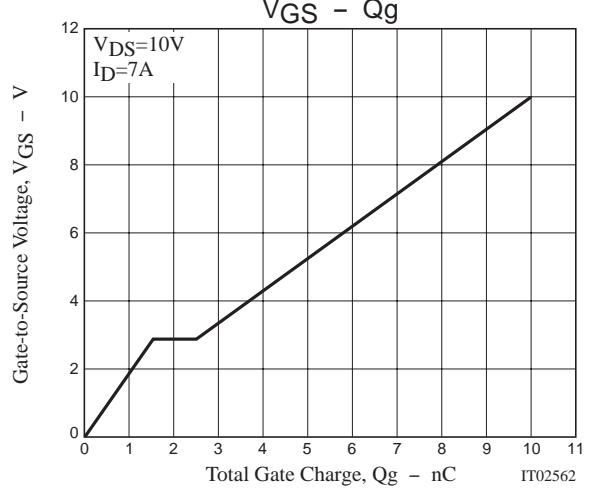
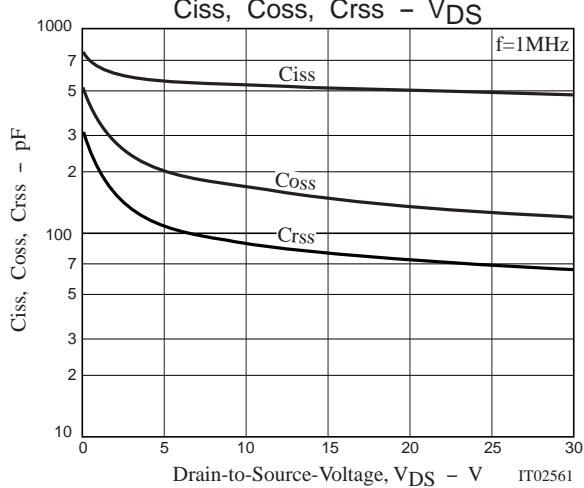
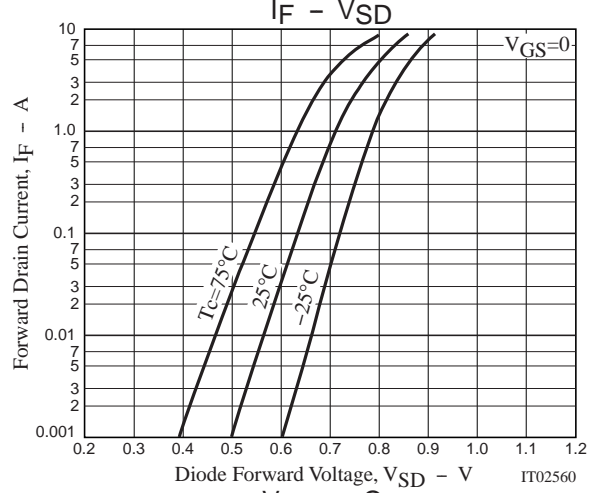
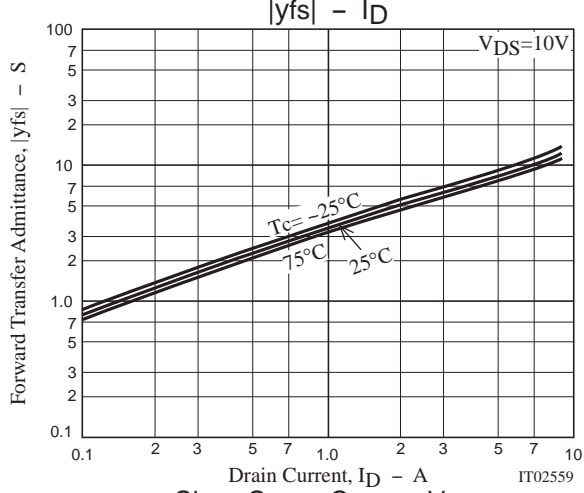
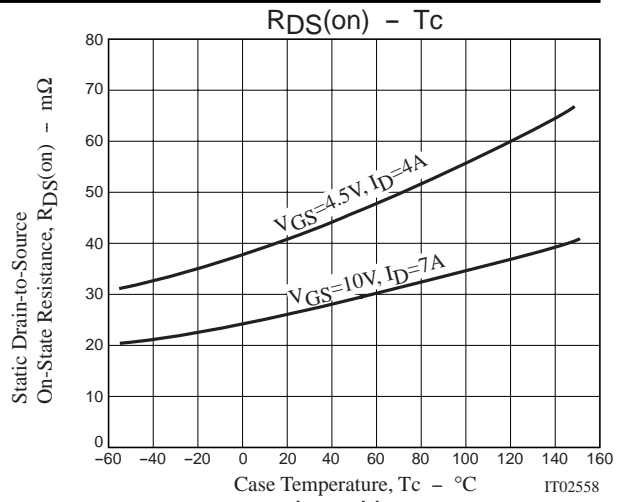
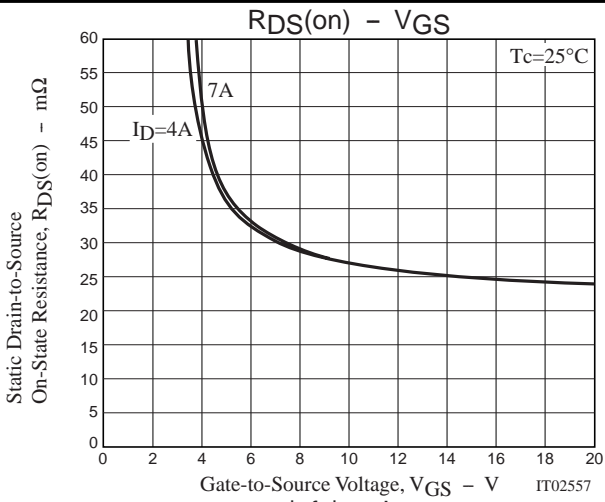
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA$, $V_{GS} = 0$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30V$, $V_{GS} = 0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16V$, $V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$, $I_D = 1mA$	1.0		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$, $I_D = 7A$	7	10		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = 7A$, $V_{GS} = 10V$		27	36	$m\Omega$
	$R_{DS(on)2}$	$I_D = 4A$, $V_{GS} = 4.5V$		40	56	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS} = 10V$, $f = 1MHz$		530		pF
Output Capacitance	C_{oss}	$V_{DS} = 10V$, $f = 1MHz$		170		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 10V$, $f = 1MHz$		90		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		9		ns
Rise Time	t_r	See specified Test Circuit		130		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		40		ns
Fall Time	t_f	See specified Test Circuit		60		ns
Total Gate Charge	Q_g	$V_{DS} = 10V$, $V_{GS} = 10V$, $I_D = 15A$		10		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = 10V$, $V_{GS} = 10V$, $I_D = 15A$		1.5		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS} = 10V$, $V_{GS} = 10V$, $I_D = 15A$		1.0		nC
Diode Forward Voltage	V_{SD}	$I_S = 15A$, $V_{GS} = 0$	1.0	1.2		V

Marking : K3278

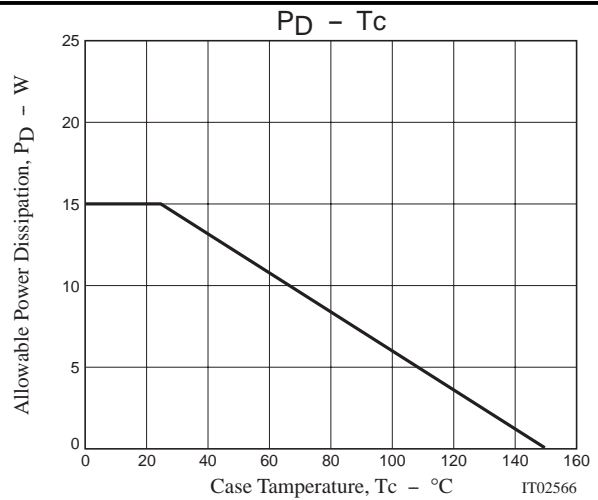
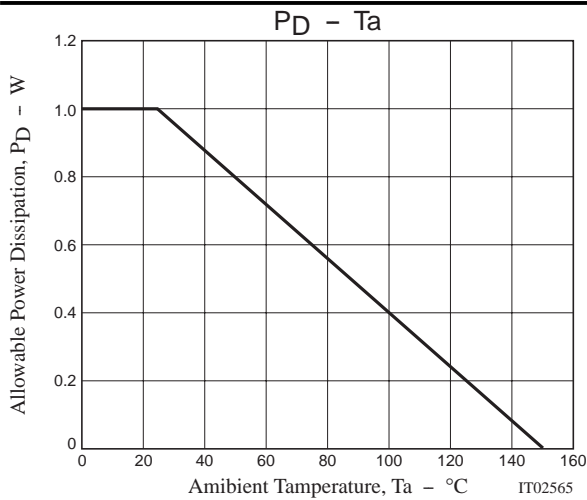
Switching Time Test Circuit



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