



2SK3412

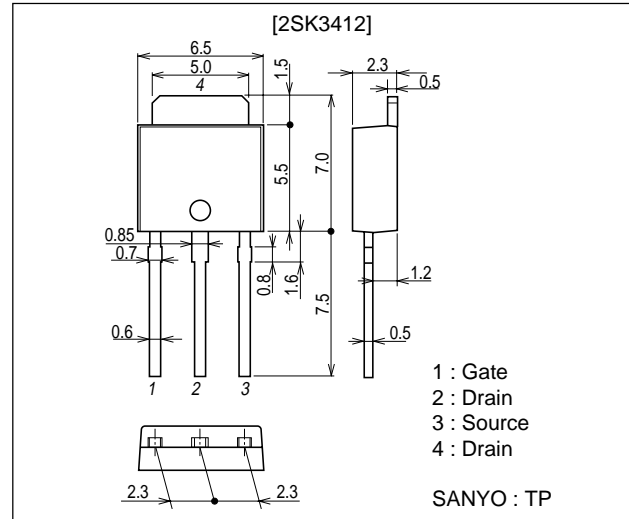
DC / DC Converter Applications

Features

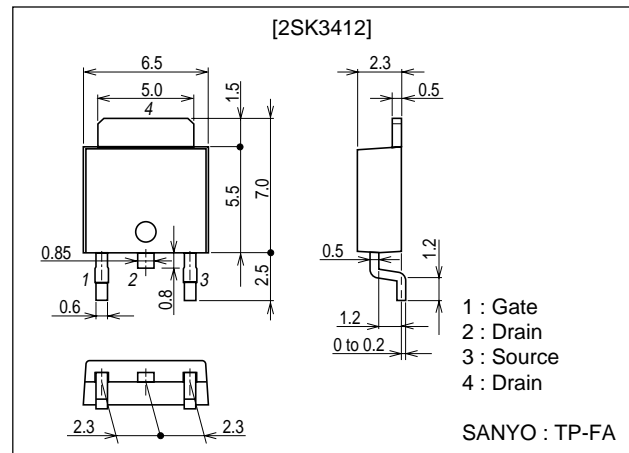
- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

Package Dimensions

unit : mm
2083B



unit : mm
2092B



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Specifications

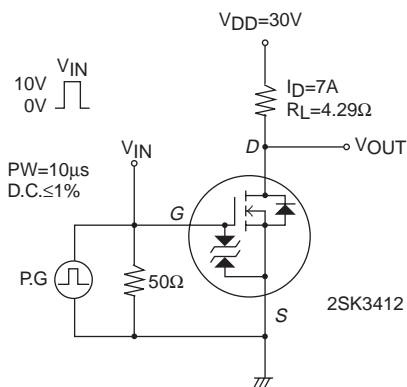
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		60	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		14	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	52	A
Allowable Power Dissipation	P _D		1	W
		T _c =25°C	20	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

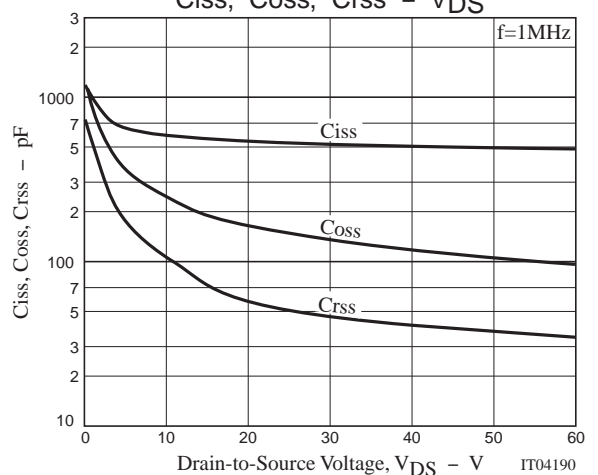
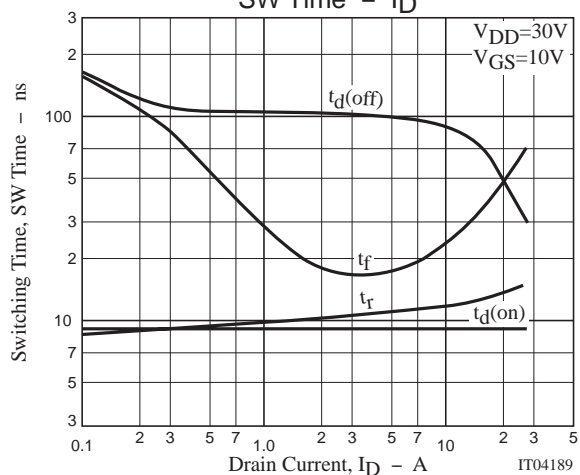
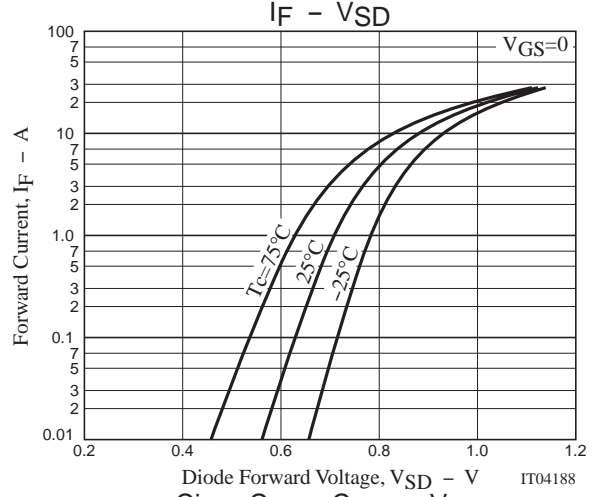
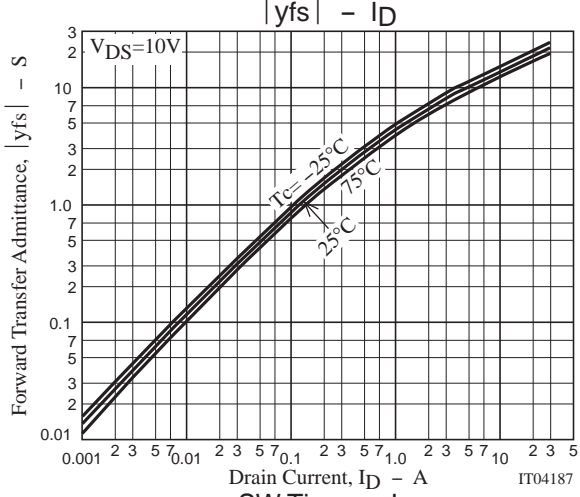
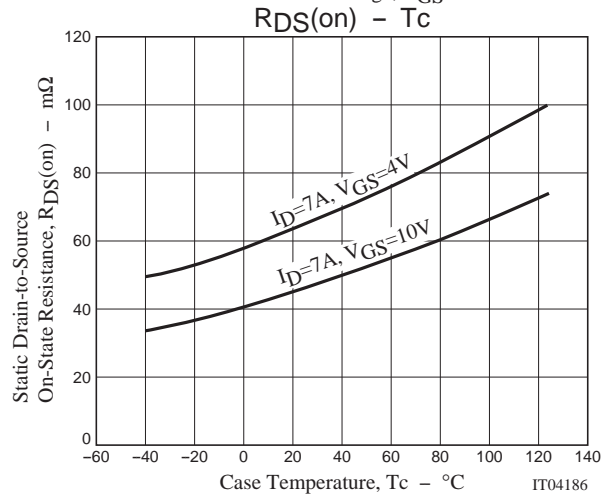
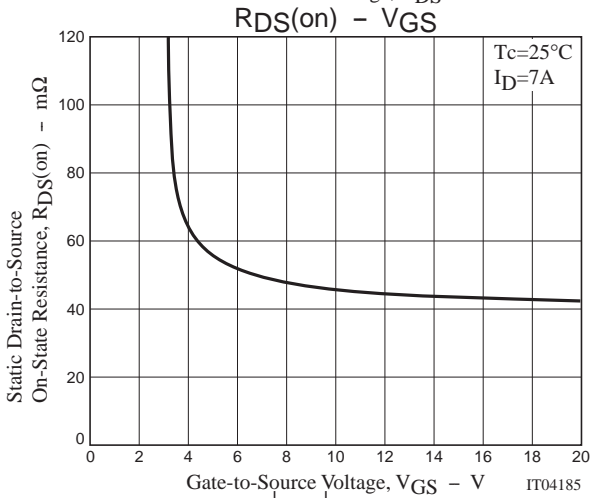
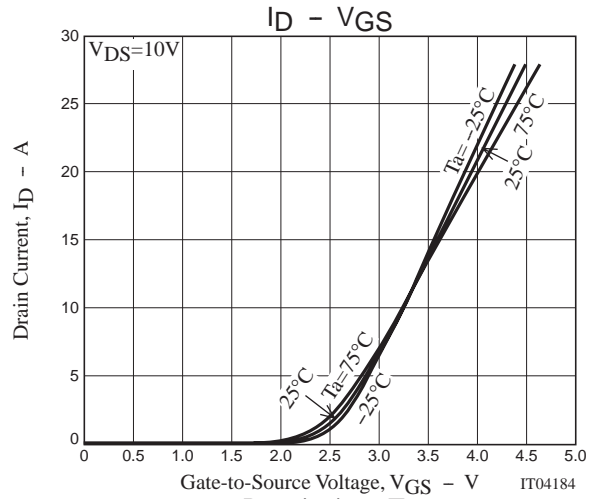
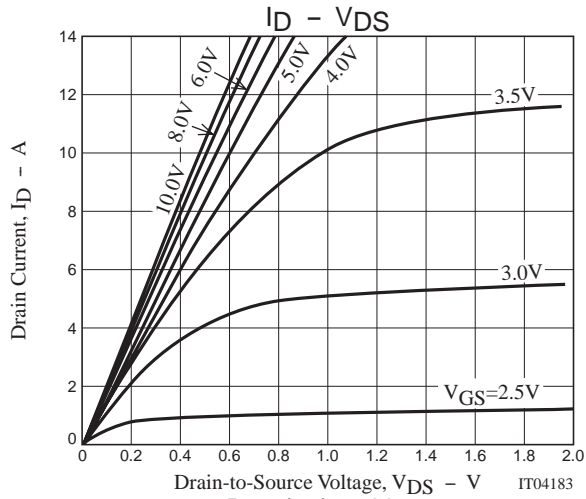
Electrical Characteristics at Ta=25°C

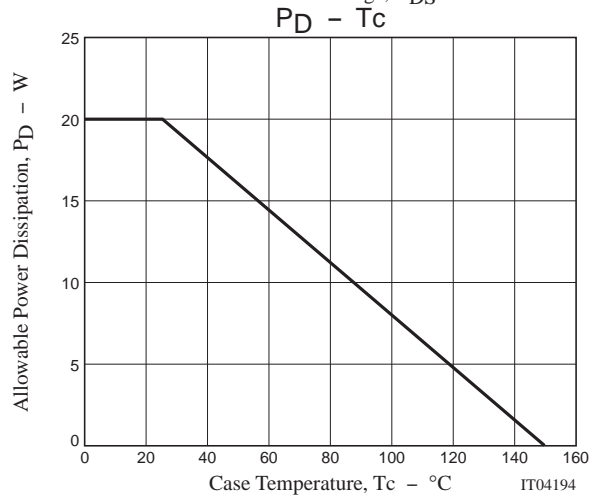
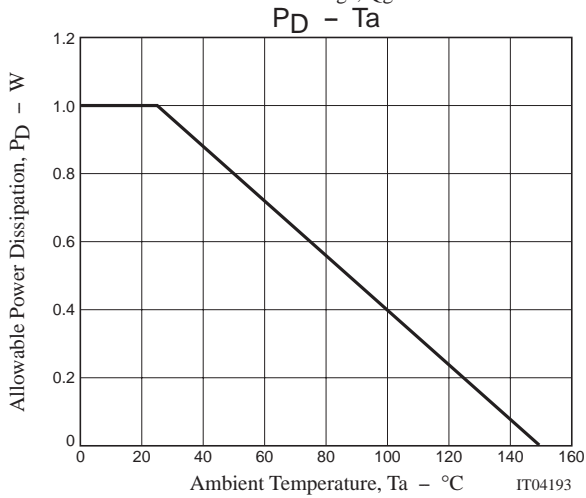
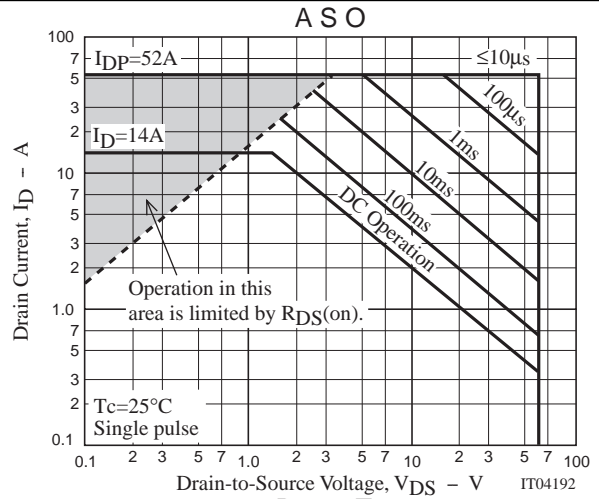
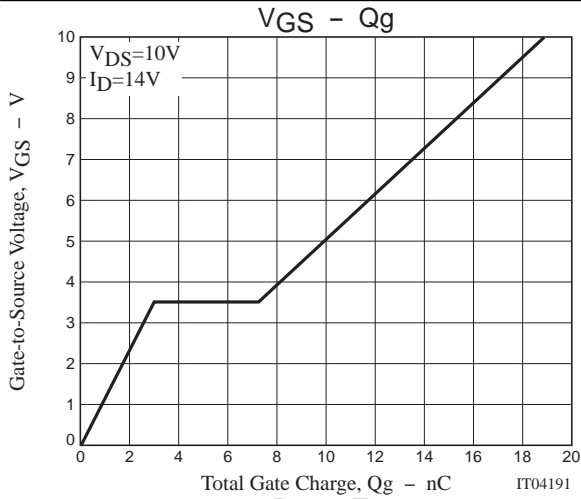
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =1mA, V _{GS} =0	60			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0			10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.0		2.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =7A	8	11		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =7A, V _{GS} =10V		48	62	mΩ
	R _{DS(on)2}	I _D =7A, V _{GS} =4V		64	90	mΩ
Input Capacitance	C _{iss}	V _{DS} =20V, f=1MHz		550		pF
Output Capacitance	C _{oss}	V _{DS} =20V, f=1MHz		170		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =20V, f=1MHz		60		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		9		ns
Rise Time	t _r	See specified Test Circuit.		12		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		95		ns
Fall Time	t _f	See specified Test Circuit.		20		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =10V, I _D =14A		19		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =10V, V _{GS} =10V, I _D =14A		3		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =10V, V _{GS} =10V, I _D =14A		4.2		nC
Diode Forward Voltage	V _{SD}	I _S =14A, V _{GS} =0	0.94	1.2		V

Switching Time Test Circuit



2SK3412





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