

No.4630

2SK2046

N-Channel MOS Silicon FET

Very High-Speed Switching Applications

Features

- Low ON resistance.
- Very high-speed switching.
- Low-voltage drive.

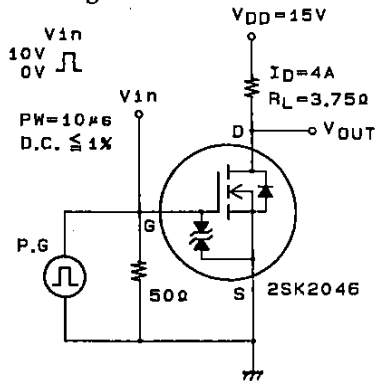
Absolute Maximum Ratings at Ta = 25°C

			unit
Drain-to-Source Voltage	V _{DS}	30	V
Gate-to-Source Voltage	V _{GS}	±15	V
Drain Current (DC)	I _D	12	A
Drain Current (Pulse)	I _{DP}	PW ≤ 10μs, duty cycle ≤ 1%	48 A
Allowable Power Dissipation	P _D	Tc = 25°C	30 W
Channel Temperature	T _{ch}		150 °C
Storage Temperature	T _{stg}		-55 to +150 °C

Electrical Characteristics at Ta = 25°C

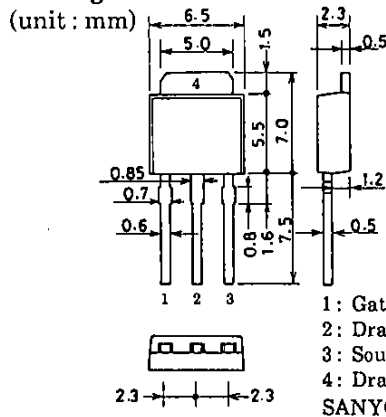
			min	typ	max	unit
D-S Breakdown Voltage	V _{(BR)DSS}	I _D = 1mA, V _{GS} = 0	30			V
G-S Breakdown Voltage	V _{(BR)GSS}	I _G = ±100μA, V _{DS} = 0	±15			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30V, V _{GS} = 0			100	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} = ±12V, V _{DS} = 0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} = 10V, I _D = 1mA	1.0		2.0	V
Forward Transfer Admittance	Y _{fs}	V _{DS} = 10V, I _D = 4A	5	8		S
Static Drain-to-Source on State Resistance	R _{DS(on)}	I _D = 4A, V _{GS} = 10V	24	35	50	mΩ
Input Capacitance	C _{iss}	V _{DS} = 10V, f = 1MHz		1000		pF
Output Capacitance	C _{oss}	V _{DS} = 10V, f = 1MHz		550		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} = 10V, f = 1MHz		180		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		13		ns
Rise Time	t _r	"		40		ns
Turn-OFF Delay Time	t _{d(off)}	"		130		ns
Fall Time	t _f	"		120		ns
Diode Forward Voltage	V _{SD}	I _S = 8A, V _{GS} = 0	1.0	1.5		V
Drain Current	I _{DSX}	V _{DS} = 5V, V _{GS} = 0.1V			0.5	μA

Switching Time Test Circuit

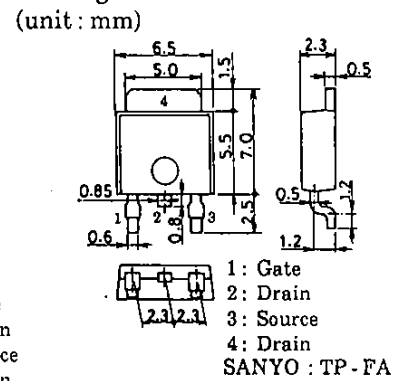


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Package Dimensions 2083B



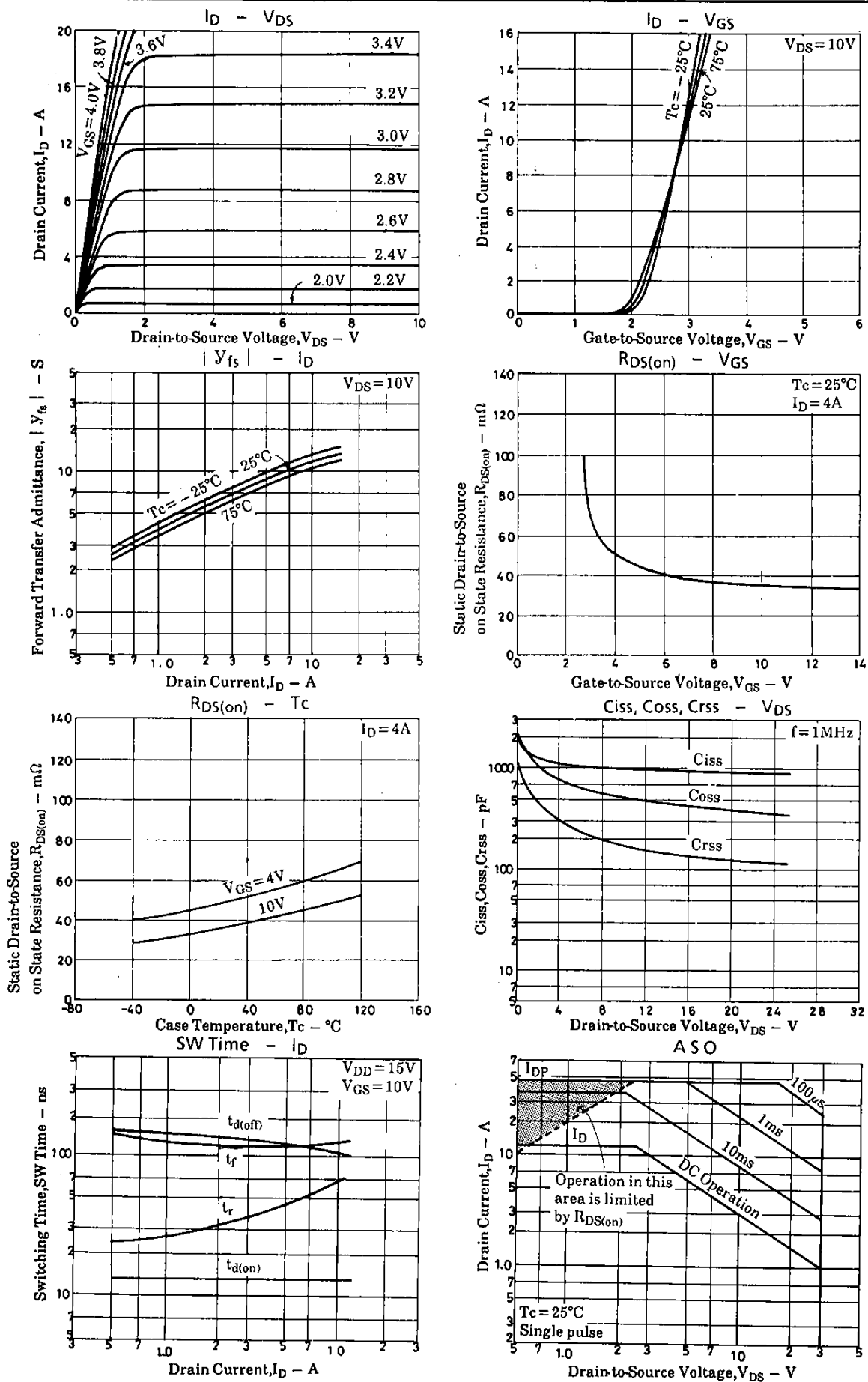
Package Dimensions 2092B

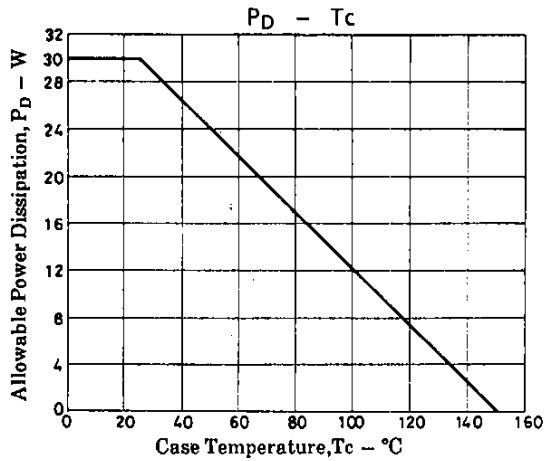


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