

SANYO	No.4689	<h1 style="margin: 0;">2SK2154</h1> <p style="margin: 0;">N-Channel MOS Silicon FET</p> <p style="margin: 0;">Very High-Speed Switching Applications</p>
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Features

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

Absolute Maximum Ratings at Ta = 25°C

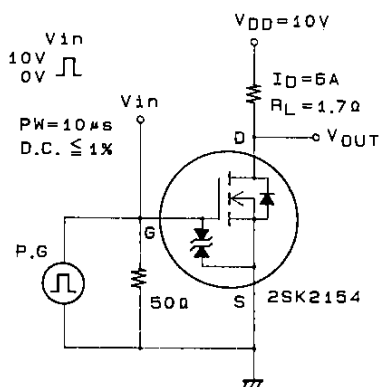
Drain-to-Source Voltage	V_{DSS}	20	V
Gate-to-Source Voltage	V_{GSS}	±18	V
Drain Current(DC)	I_D	12	A
Drain Current(Pulse)	I_{DP}	48	A
Allowable Power Dissipation	P_D	30	W
Channel Temperature	T_{ch}	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

$PW \leq 10\mu s, \text{ duty cycle} \leq 1\%$
 $T_c = 25^\circ C$

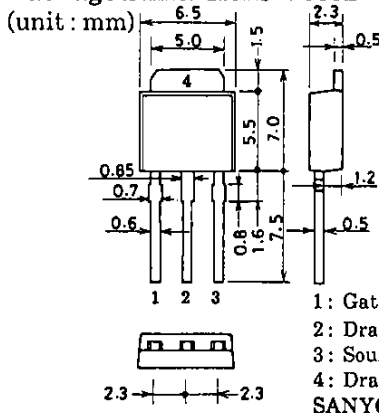
Electrical Characteristics at Ta = 25°C

		min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$ $I_D = 1mA, V_{GS} = 0$	20			V
G-S Breakdown Voltage	$V_{(BR)GSS}$ $I_G = \pm 100\mu A, V_{DS} = 0$	±18			V
Zero Gate Voltage Drain Current	I_{DSS} $V_{DS} = 20V, V_{GS} = 0$			100	μA
Gate-to-Source Leakage Current	I_{GSS} $V_{GS} = \pm 12V, V_{DS} = 0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$ $V_{DS} = 10V, I_D = 1mA$	0.8		2.0	V
Forward Transfer Admittance	$ Y_{fs} $ $V_{DS} = 10V, I_D = 6A$	7	10		S
Static Drain-to-Source on State Resistance	$R_{DS(on)}$ $I_D = 6A, V_{GS} = 10V$		30	42	mΩ
	$R_{DS(on)}$ $I_D = 6A, V_{GS} = 4V$		45	58	mΩ
Input Capacitance	C_{iss} $V_{DS} = 10V, f = 1MHz$		1000		pF
Output Capacitance	C_{oss} $V_{DS} = 10V, f = 1MHz$		650		pF
Reverse Transfer Capacitance	C_{rss} $V_{DS} = 10V, f = 1MHz$		220		pF
Turn-ON Delay Time	$t_{d(on)}$ See specified Test Circuit.		13		ns
Rise Time	t_r "		35		ns
Turn-OFF Delay Time	$t_{d(off)}$ "		180		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

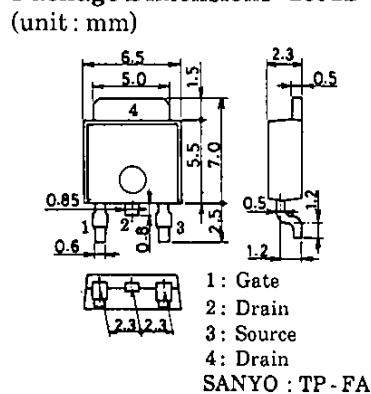
Switching Time Test Circuit



Package Dimensions 2083B

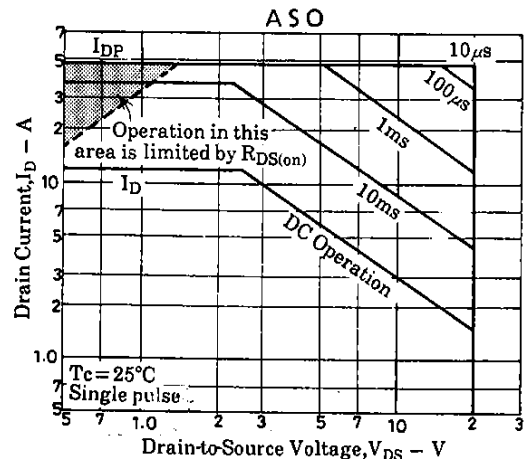
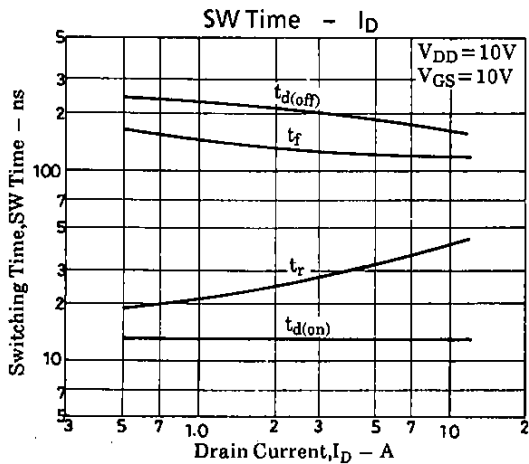
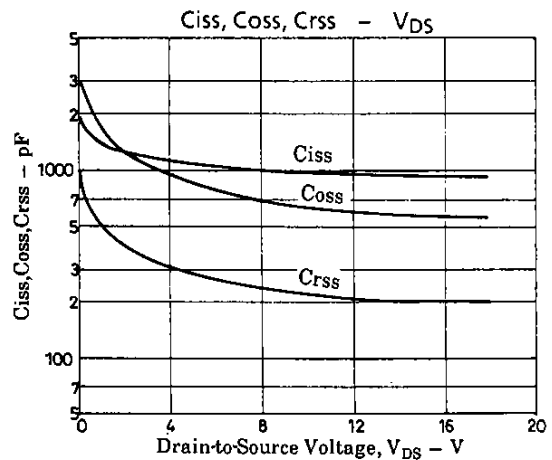
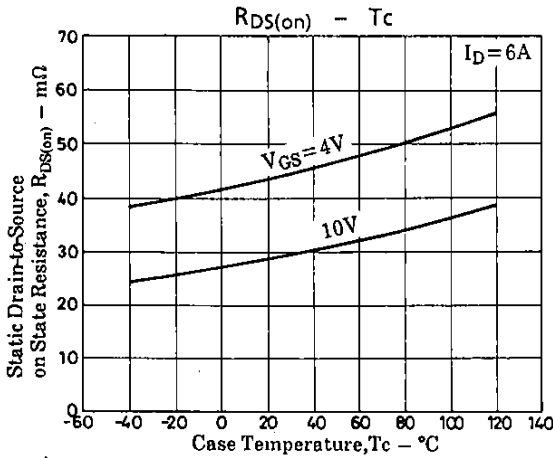
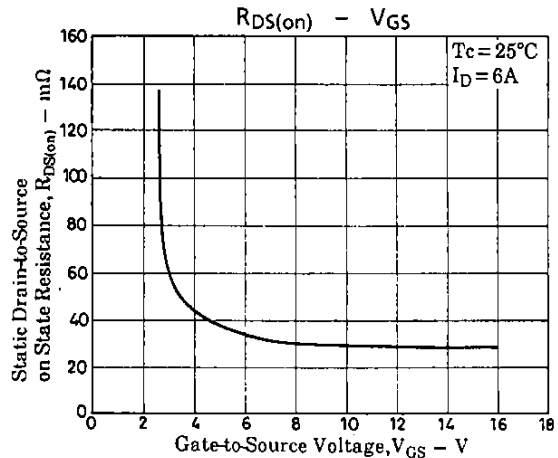
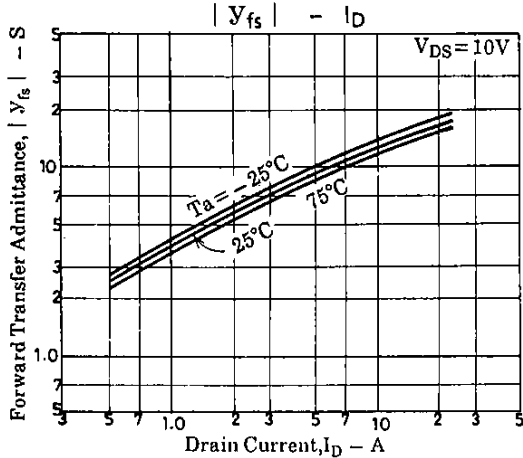
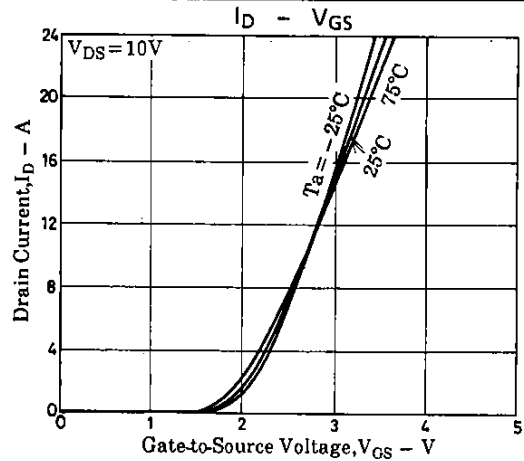
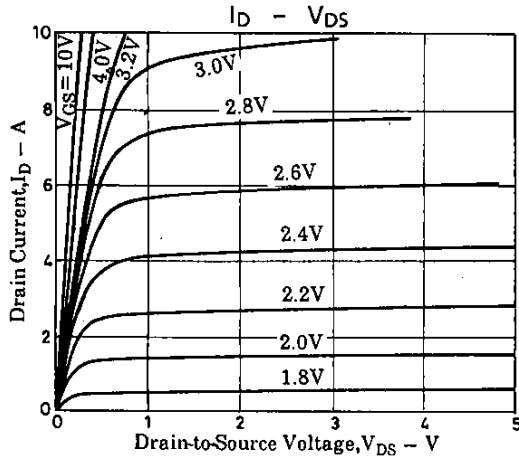


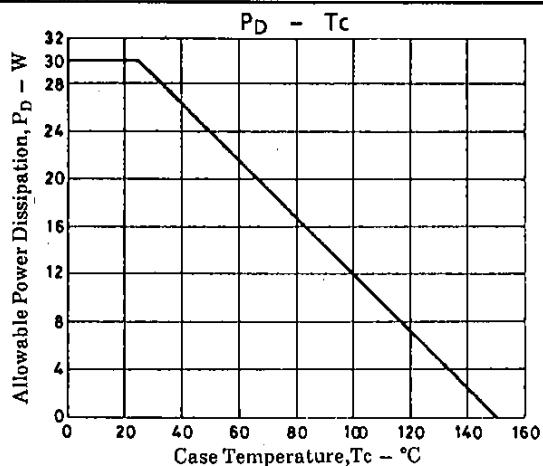
Package Dimensions 2092B



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