

SANYO	No.3561	2SK1423
		N-Channel MOS Silicon FET Very High-Speed Switching Applications

Features

- Low ON-state resistance.
- Very high-speed switching.
- Converters.

Absolute Maximum Ratings at Ta = 25°C

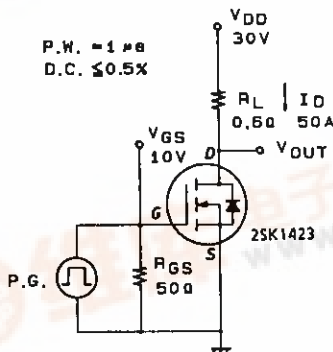
			unit
Drain to Source Voltage	V_{DSS}	60	V
Gate to Source Voltage	V_{GSS}	± 20	V
Drain Current(DC)	I_D	80	A
Drain Current(Pulse)	I_{DP}	$PW \leq 10\mu s, \text{ duty cycle} \leq 1\%$	320 A
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	150 W
			2.5 W
Channel Temperature	T_{ch}	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics at Ta = 25°C

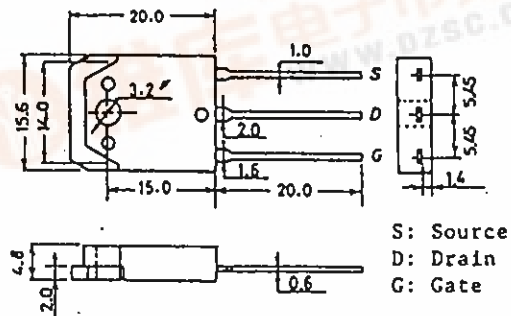
		min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$ $I_D = 1mA, V_{GS} = 0$	60			V
Zero Gate Voltage Drain Current	I_{DSS} $V_{DS} = 60V, V_{GS} = 0$			100	μA
Gate to Source Leakage Current	I_{GSS} $V_{GS} = \pm 20V, V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$ $V_{DS} = 10V, I_D = 1mA$	1.5		2.5	V
Forward Transfer Admittance	$ Y_{fs} $ $V_{DS} = 10V, I_D = 50A$	30	50		S
Static Drain to Source on State Resistance	$R_{DS(on)}$ $I_D = 50A, V_{GS} = 10V$	0.012	0.016		Ω
Input Capacitance	C_{iss} $V_{DS} = 20V, f = 1MHz$		4800		pF
Output Capacitance	C_{oss} $V_{DS} = 20V, f = 1MHz$		2200		pF
Reverse Transfer Capacitance	C_{rss} $V_{DS} = 20V, f = 1MHz$		600		pF
Turn-ON Delay Time	$t_{d(on)}$		55		ns
Rise Time	t_r	$I_D = 50A, V_{GS} = 10V$ $V_{DD} = 30V, R_{GS} = 50\Omega$		345	ns
Turn-OFF Delay Time	$t_{d(off)}$			450	ns
Fall Time	t_f			400	ns
Diode Forward Voltage	V_{SD} $I_S = 80A, V_{GS} = 0$			1.8	V

(Note) Be careful in handling the 2SK1423 because it has no protection diode between gate and source.

Switching Time Test Circuit



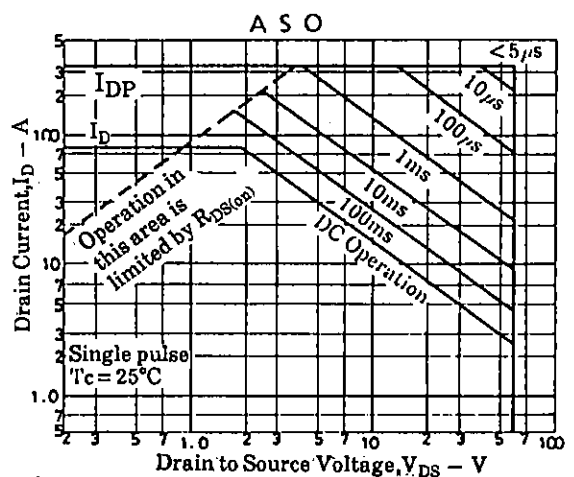
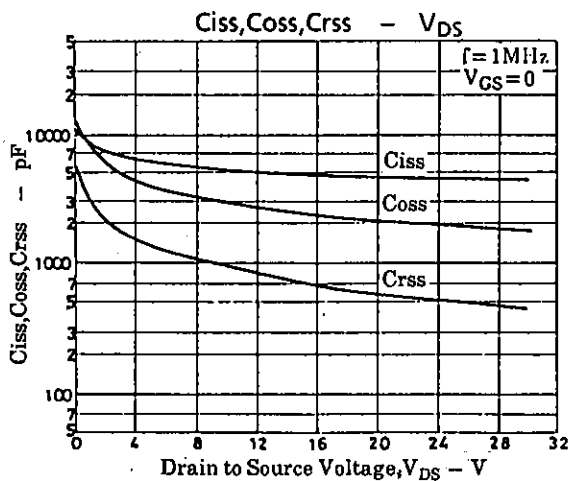
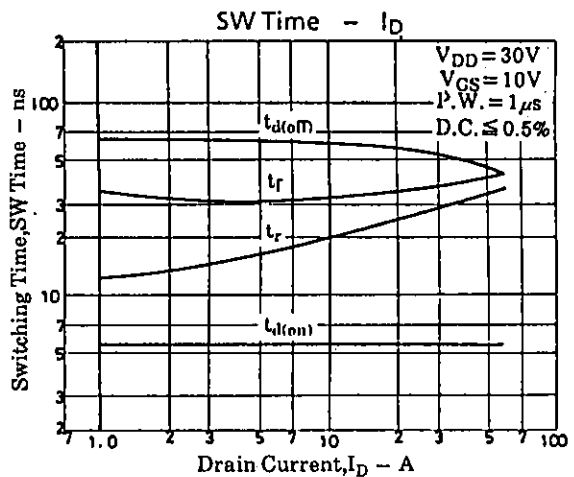
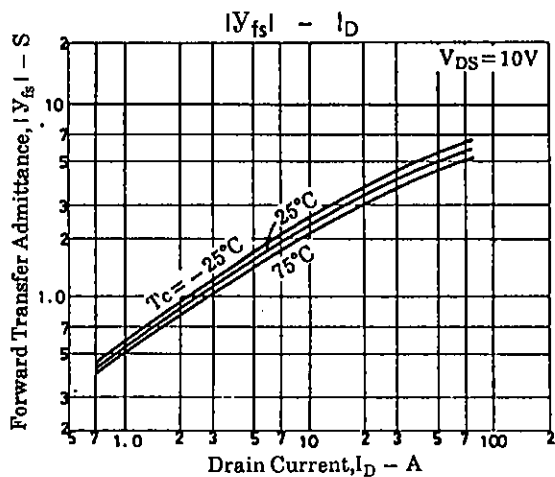
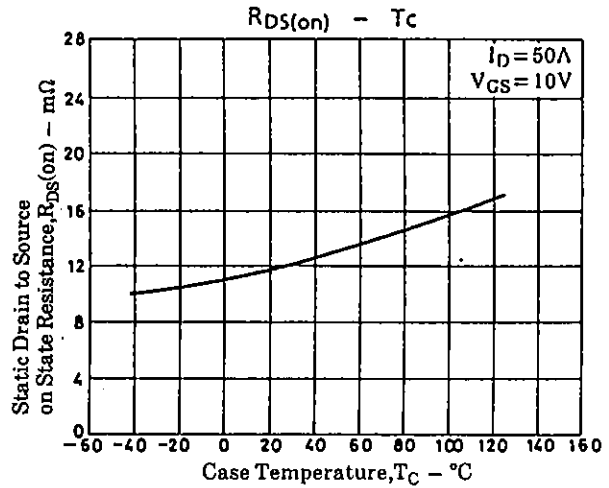
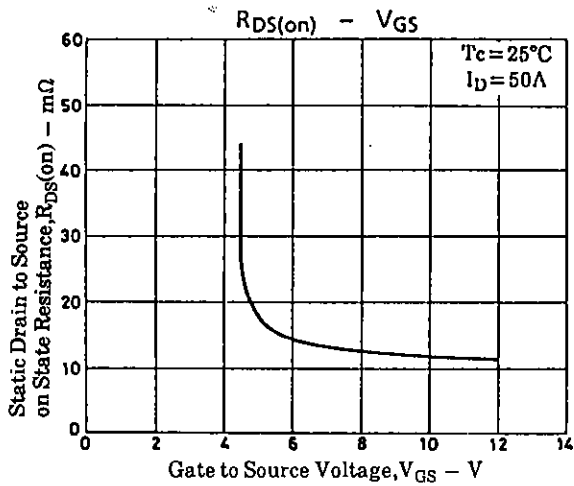
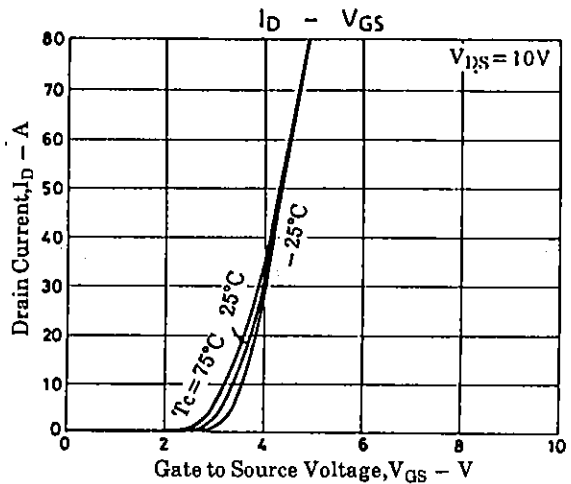
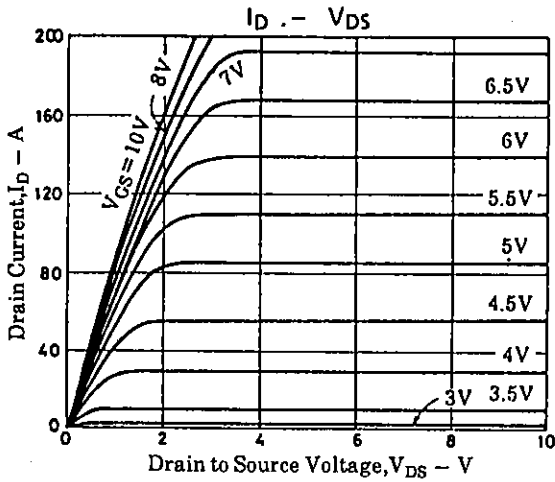
Package Dimensions 2056 (unit: mm)



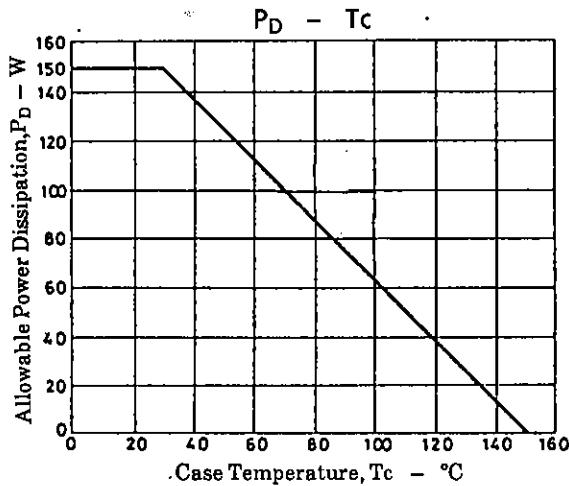
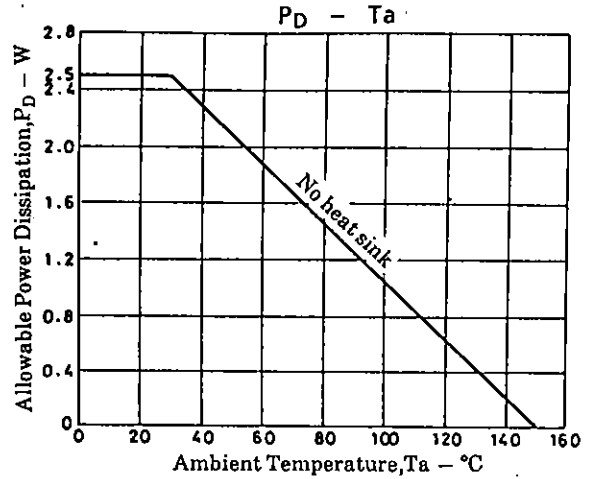
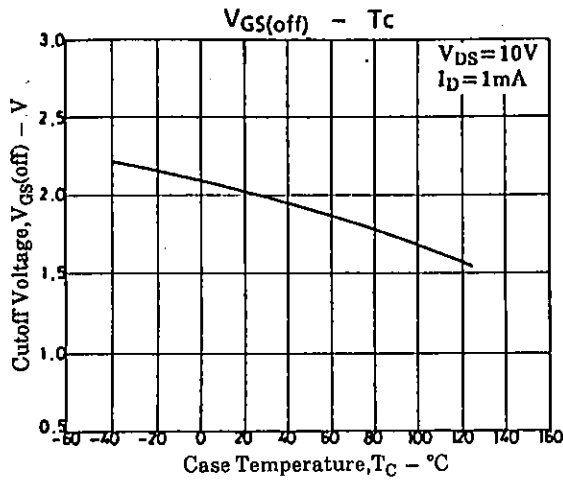
SANYO: TO3PB



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