2SK848

T-39-05

2062

N-Channel MOS Silicon FET

Very High-Speed Switching Applications

©2842

Features

· Low ON resistance, very high-speed switching

Absolute Maximum Ratings at Ta = 25°C

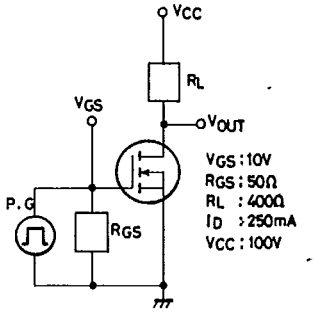
				unit
Drain to Source Voltage	V_{DS}		250	V
Gate to Source Voltage	V_{GS}		±20	V
Drain Current (DC)	I_D		500	mA
Drain Current (Pulse)	I_D peak		1	A
Maximum Power Dissipation	P_D	Mounted on ceramic PCB (250mm²×0.8mm)	1.5	W
	P_D	Tc = 25°C	3.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Drain to Source Breakdown Voltage	V_{DSS}	I_D = 1mA, V_{GS} = 0	250			V
Drain to Source Cutoff Current	I_{DSS}	V_{DS} = 250V, V_{GS} = 0			100	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0			±100	nA
Gate to Source Cutoff Voltage	$V_{GS(off)}$	V_{DS} = 10V, I_D = 1mA	0.8		2.5	V
Forward Transfer Admittance	$\|y_{fs}\|$	V_{DS} = 10V, I_D = 250mA	100	250		mS
Saturation Resistance	$R_{DS(on)}$	I_D = 250mA, V_{GS} = 10V		6	9	Ω
Input Capacitance	C_{iss}	V_{DS} = 20V, f = 1MHz		60		pF
Output Capacitance	C_{oss}	V_{DS} = 20V, f = 1MHz		20		pF
Reverse Transfer Capacitance	C_{rss}	V_{DS} = 20V, f = 1MHz		4		pF
Turn-ON Time	t_{on}	I_D = 250mA, V_{GS} = 10V		25		ns
Turn-OFF Time	t_{off}	I_D = 250mA, V_{GS} = 10V		60		ns

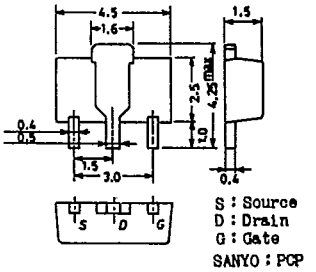
(Note) Be careful in handling the 2SK848 because it has no protection diode between gate and source.

Switching Time Test Circuit

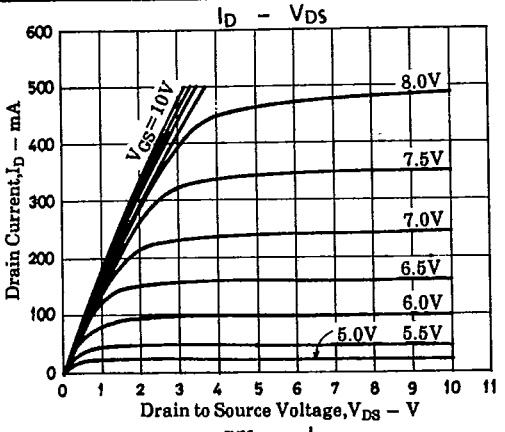


Case Outline 2062

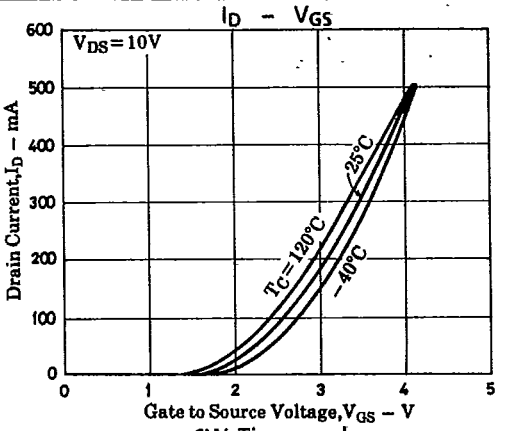
(unit : mm)



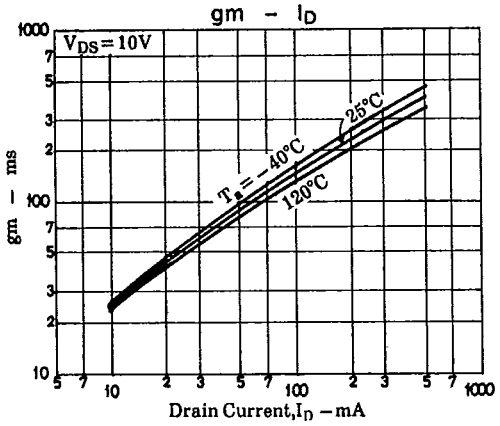
I_D – V_{DS}



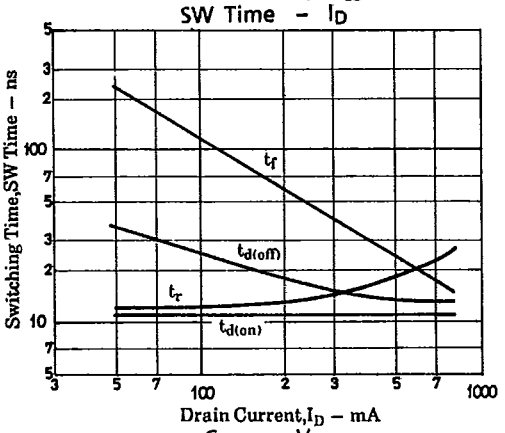
I_D – V_{GS}



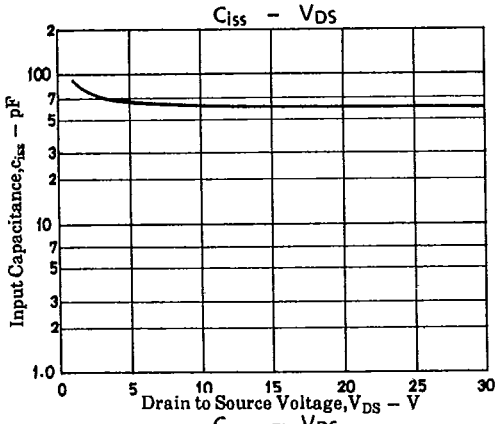
gm – I_D



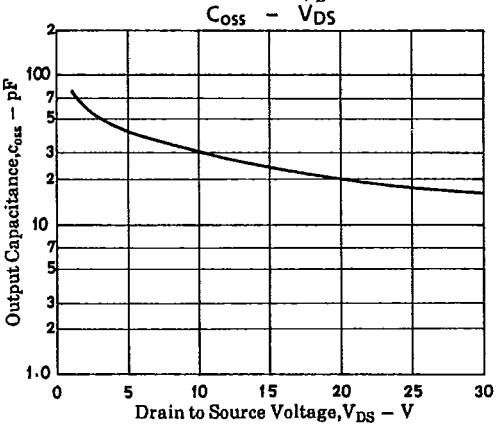
SW Time – I_D



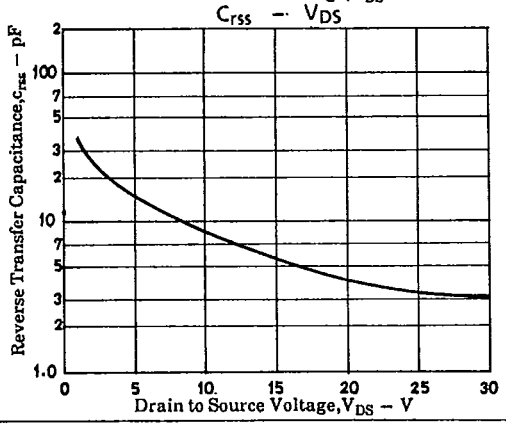
C_{iss} – V_{DS}



C_{oss} – V_{DS}



C_{rss} – V_{DS}



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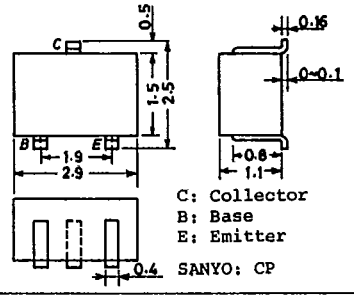
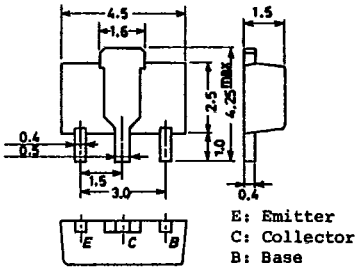
CASE OUTLINES OF SURFACE MOUNT TRANSISTORS

- All of Sanyo surface mount transistor case outlines are illustrated below.
- All dimensions are in mm, and dimensions which are not followed by min. or max. are represented by typical values.
- No marking is indicated.

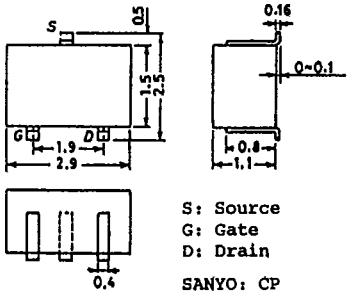
Case Outline—[2018A] unit: mm



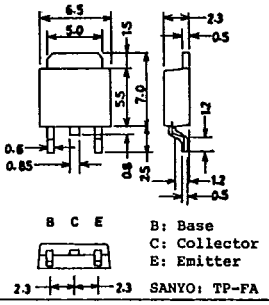
Case Outline—[2038] unit: mm



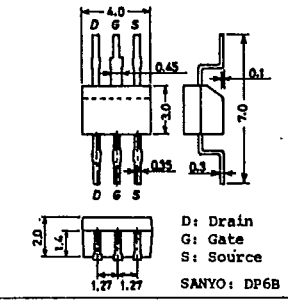
Case Outline—[2024A] unit: mm



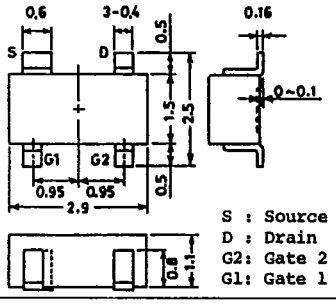
Case Outline—[2044] unit: mm



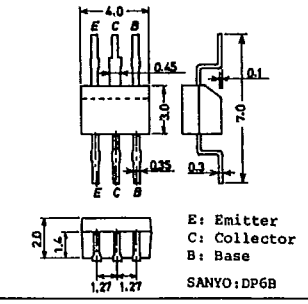
Case Outline—[2028A] unit: mm



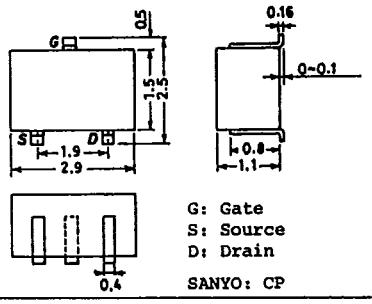
Case Outline—[2046] unit: mm



Case Outline—[2030A] unit: mm



Case Outline—[2050] unit: mm



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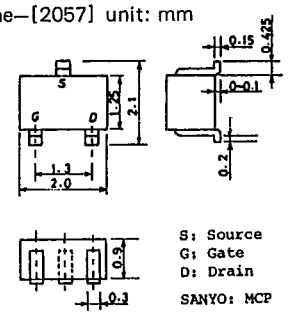
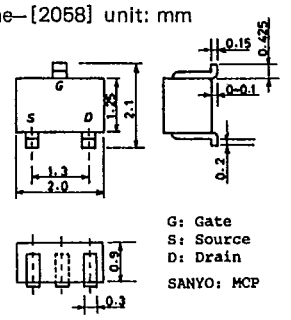
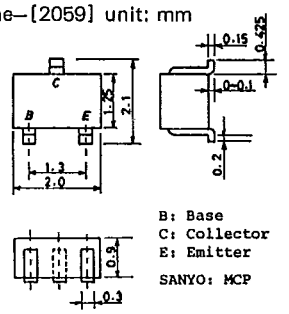
Case Outline—[2057] unit: mm



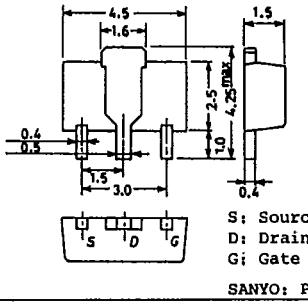
Case Outline—[2058] unit: mm



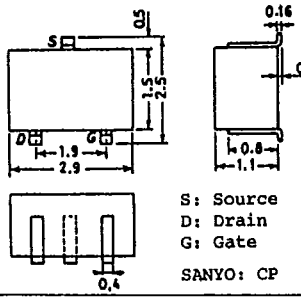
Case Outline—[2059] unit: mm



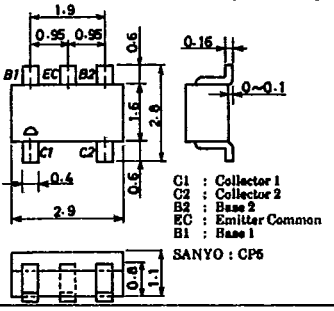
Case Outline—[2062] unit: mm



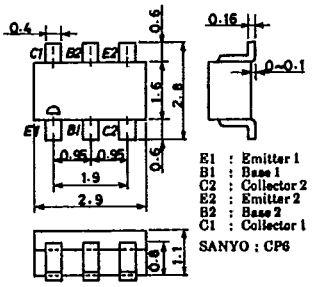
Case Outline—[2065] unit: mm



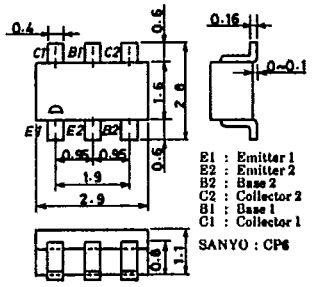
Case Outline—[2066] unit: mm



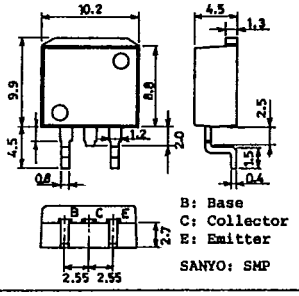
Case Outline—[2067] unit: mm



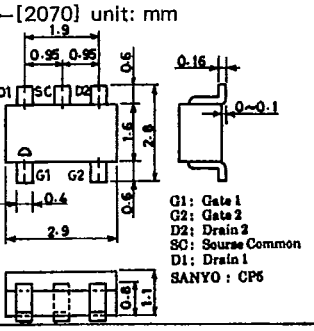
Case Outline—[2068] unit: mm



Case Outline—[2069] unit: mm



Case Outline—[2070] unit: mm



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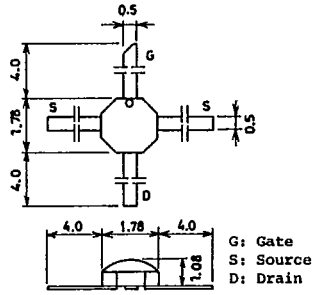
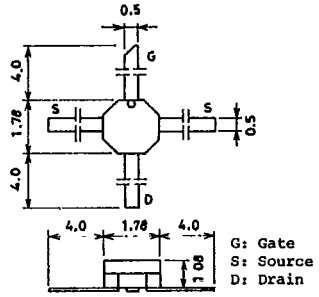
Case Outline—[2071] unit: mm



Case Outline—[2072] unit: mm



Case Outline—[2073] unit: mm