2SK931

2050

N-Channel Junctio...

High-Frequency Low-Noise Amp Applications

©2840

Features

- Adoption of FBET process
- Large $|y_{fs}|$
- Small c_{iss}
- Very low noise figure
- Very small-sized package permitting 2SK931-applied sets to be made smaller and slimmer

Absolute Maximum Ratings at Ta = 25°C

			unit
Drain to Source Voltage	V_{DSX}	30	V
Gate to Drain Voltage	V_{GDS}	−30	V
Gate Current	I_G	10	mA
Drain Current	I_D	50	mA
Allowable Power Dissipation	P_D	200	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

Electrical Characteristics at Ta = 25°C

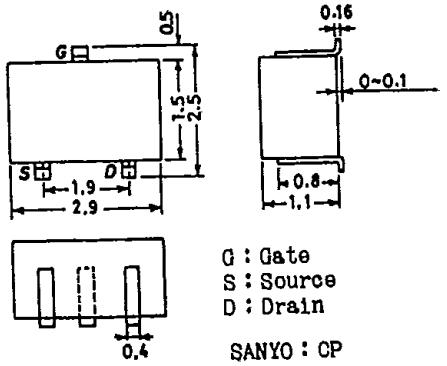
			min	typ	max	unit
Gate to Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu A, V_{DS} = 0V$	−30			V
Gate Cutoff Current	I_{GSS}	$V_{GS} = -20V, V_{DS} = 0V$			−1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5V, I_D = 100\mu A$	−0.3	−0.8	−2.0	V
Drain Current	I_{DSS}	$V_{DS} = 5V, V_{GS} = 0V$	※5.0		※30.0	mA
Forward Transfer Admittance	$\|y_{fs}\|$	$V_{DS} = 5V, V_{GS} = 0V, f = 1kHz$	15	30		mS
Input Capacitance	c_{iss}	$V_{DS} = 5V, V_{GS} = 0V, f = 1MHz$		7.0		pF
Reverse Transfer Capacitance	c_{rss}	$V_{DS} = 5V, V_{GS} = 0V, f = 1MHz$		2.0		pF
Noise Figure	NF	$V_{DS} = 5V, Rg = 1k\Omega, I_D = 1mA, f = 1kHz$		1.5		dB

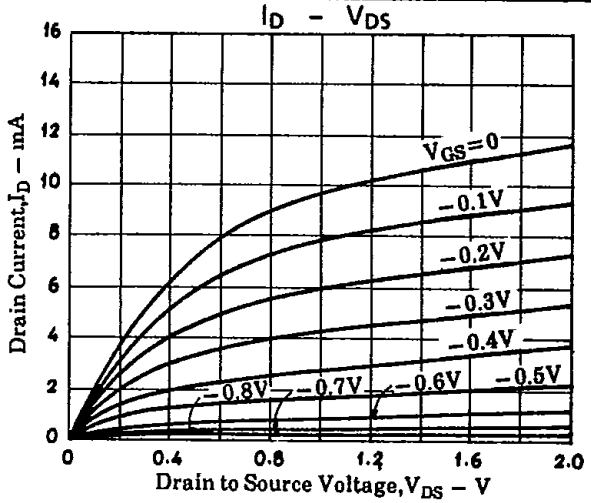
※ : The 2SK931 is classified by I_{DSS} as follows (unit : mA) :

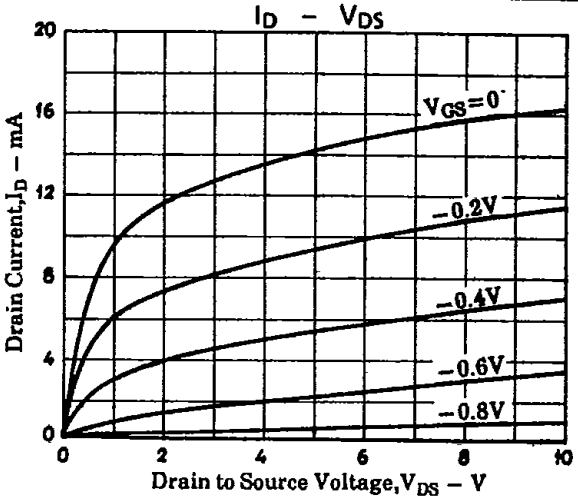
5.0	21	8.5	7.3	22	12.0	10.0	23	17.0	14.5	24	24.0	18.0	25	30.0

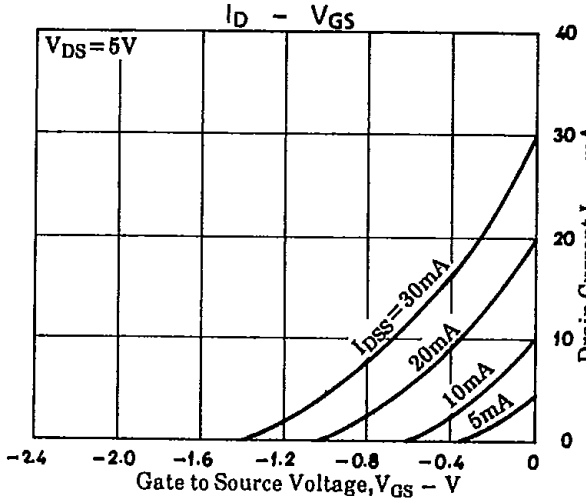
(Note) Marking : D
I_{DSS} rank : 21,22,23,24,25

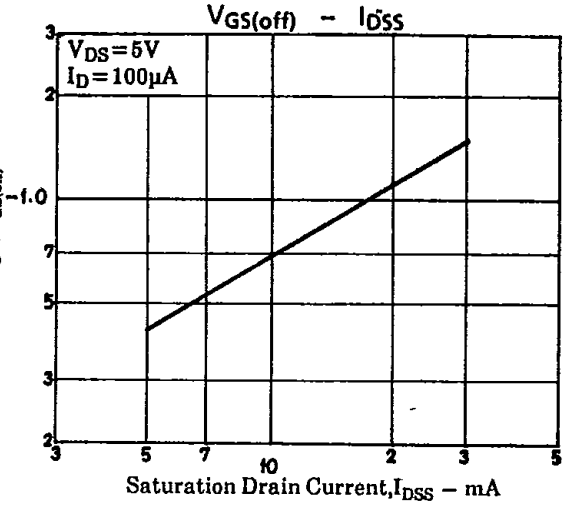
Case Outline 2050
(unit : mm)

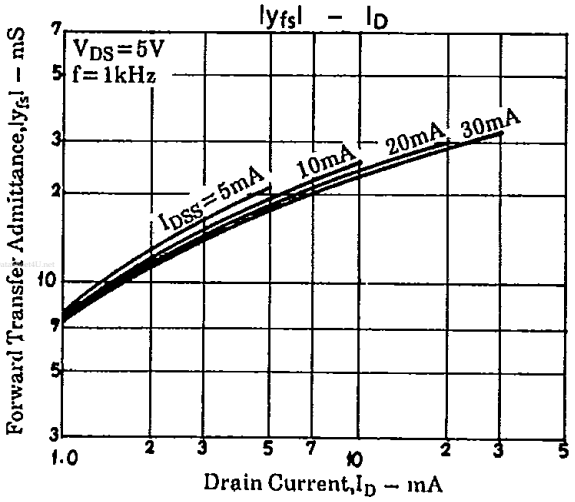


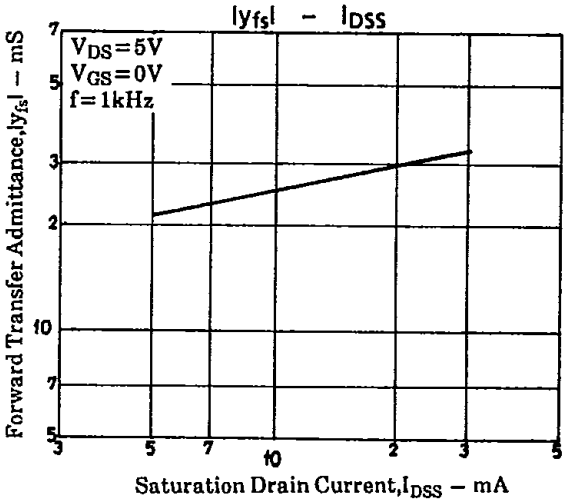

I_D – V_{DS}
Drain Current, I_D – mA
Drain to Source Voltage, V_{DS} – V
V_{GS}=0
–0.1V
–0.2V
–0.3V
–0.4V
–0.5V
–0.6V
–0.7V
–0.8V

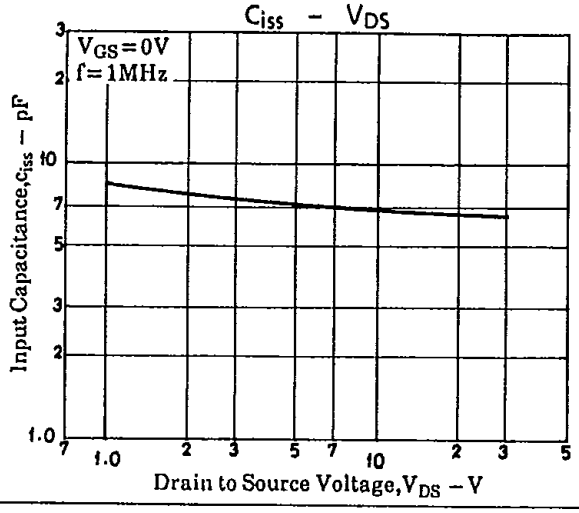

I_D – V_{DS}
Drain Current, I_D – mA
Drain to Source Voltage, V_{DS} – V
V_{GS}=0
–0.2V
–0.4V
–0.6V
–0.8V

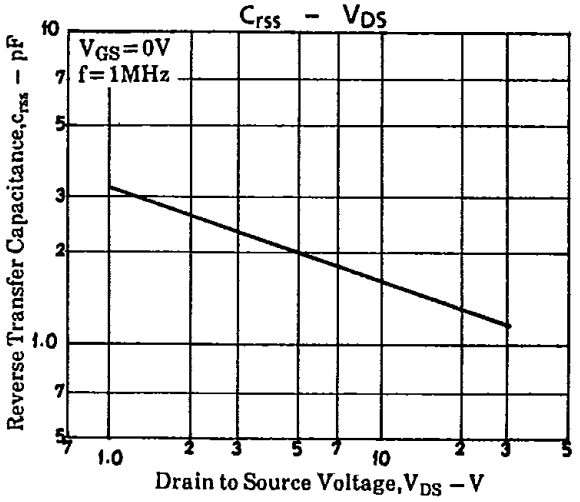

I_D – V_{GS}
V_{DS}=5V
I_{DSS}=30mA
20mA
10mA
5mA
Drain Current, I_D – mA
Gate to Source Voltage, V_{GS} – V

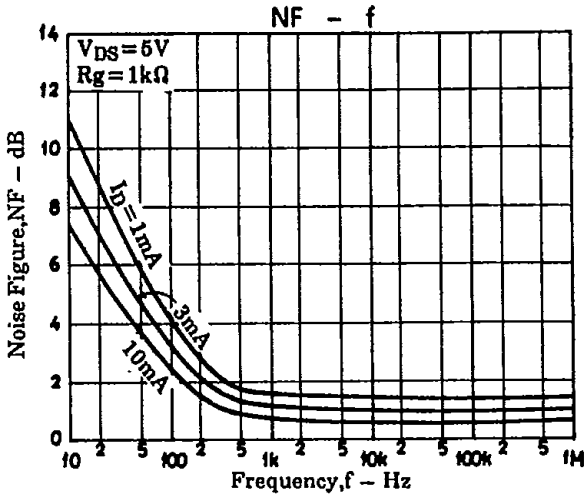

$V_{GS(off)}$ – I_{DSS}
V_{DS}=5V
I_D=100μA
Cutoff Voltage, $V_{GS(off)}$ – V
Saturation Drain Current, I_{DSS} – mA

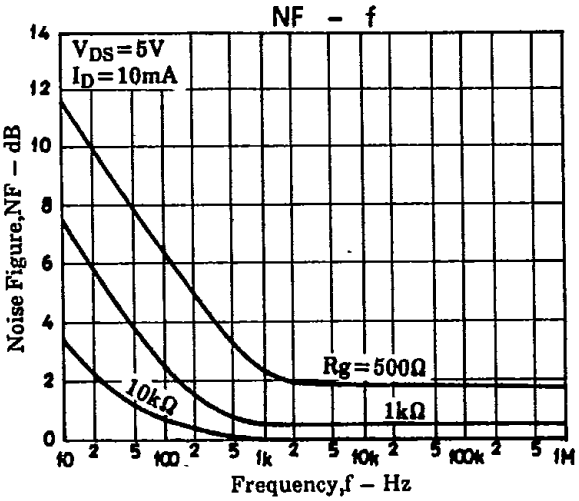

$|y_{fs}|$ – I_D
V_{DS}=5V
f=1kHz
I_{DSS}=5mA
10mA
20mA
30mA
Forward Transfer Admittance, $|y_{fs}|$ – mS
Drain Current, I_D – mA

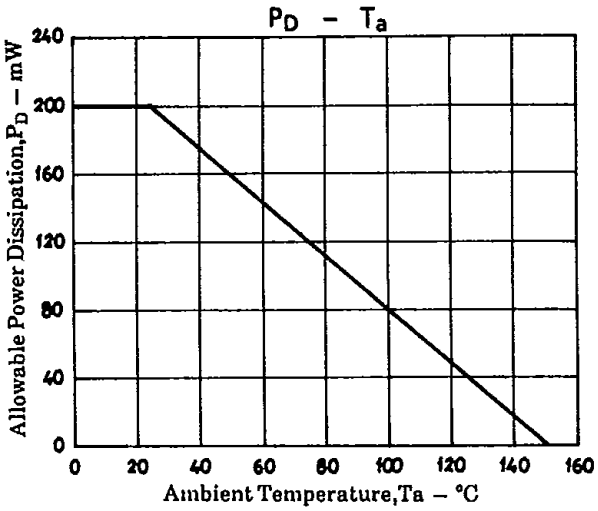

$|y_{fs}|$ – I_{DSS}
V_{DS}=5V
V_{GS}=0V
f=1kHz
Forward Transfer Admittance, $|y_{fs}|$ – mS
Saturation Drain Current, I_{DSS} – mA


C_{iss} – V_{DS}
V_{GS}=0V
f=1MHz
Input Capacitance, c_{iss} – pF
Drain to Source Voltage, V_{DS} – V


C_{rss} – V_{DS}
V_{GS}=0V
f=1MHz
Reverse Transfer Capacitance, c_{rss} – pF
Drain to Source Voltage, V_{DS} – V



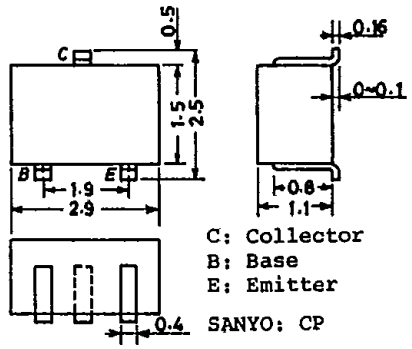




CASE OUTLINES OF SURFACE MOUNT TRANSISTORS

- ●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.

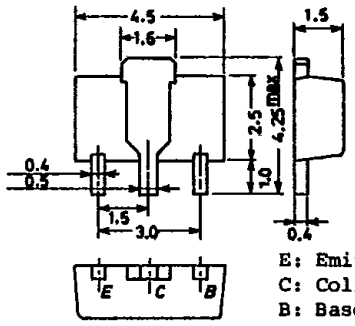
Case Outline—[2018A] unit: mm



C: Collector
B: Base
E: Emitter

SANYO: CP

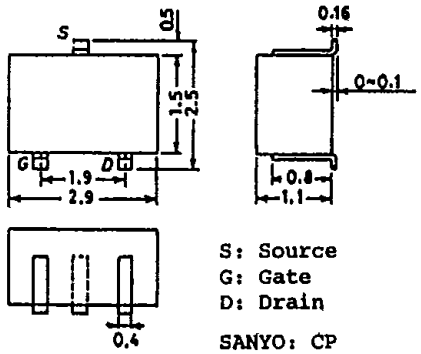
Case Outline—[2038] unit: mm



E: Emitter
C: Collector
B: Base

SANYO: PCP

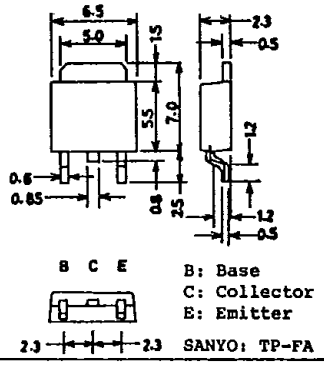
Case Outline—[2024A] unit: mm



S: Source
G: Gate
D: Drain

SANYO: CP

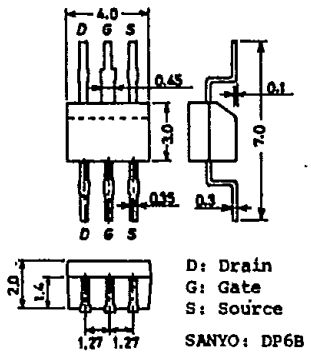
Case Outline—[2044] unit: mm



B: Base
C: Collector
E: Emitter

SANYO: TP-FA

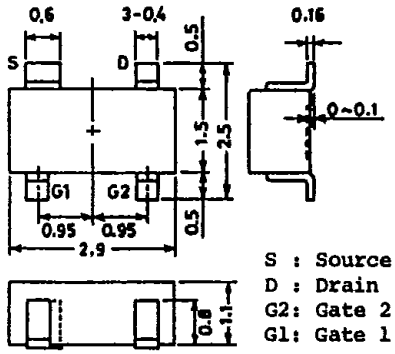
Case Outline—[2028A] unit: mm



D: Drain
G: Gate
S: Source

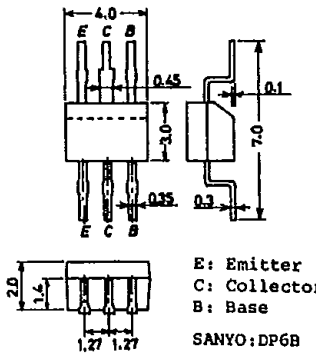
SANYO: DP6B

Case Outline—[2046] unit: mm



S : Source
D : Drain
G2: Gate 2
G1: Gate 1

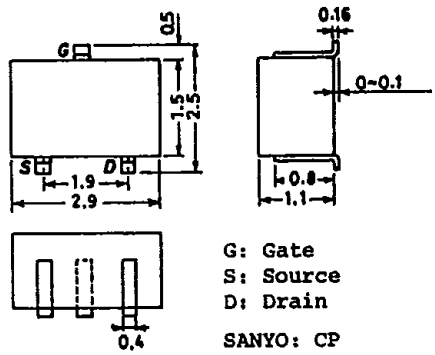
Case Outline—[2030A] unit: mm



E: Emitter
C: Collector
B: Base

SANYO:DP6B

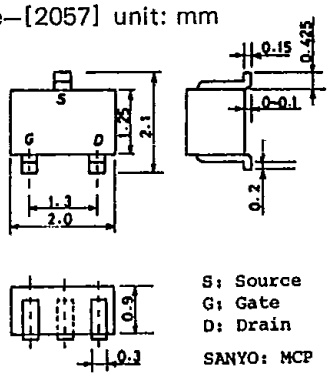
Case Outline—[2050] unit: mm



G: Gate
S: Source
D: Drain

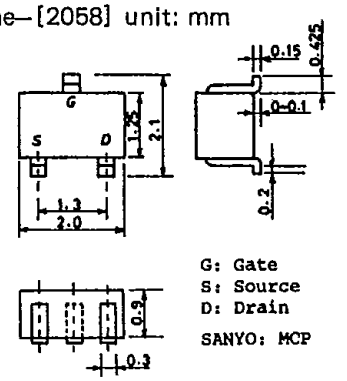
SANYO: CP

Case Outline—[2057] unit: mm



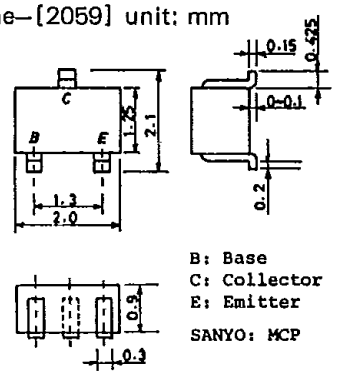
S: Source
G: Gate
D: Drain
SANYO: MCP

Case Outline—[2058] unit: mm



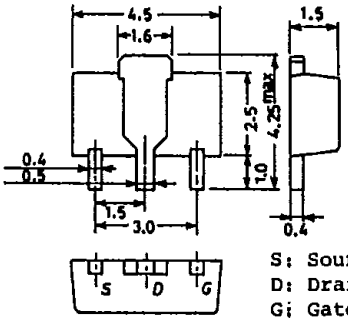
G: Gate
S: Source
D: Drain
SANYO: MCP

Case Outline—[2059] unit: mm



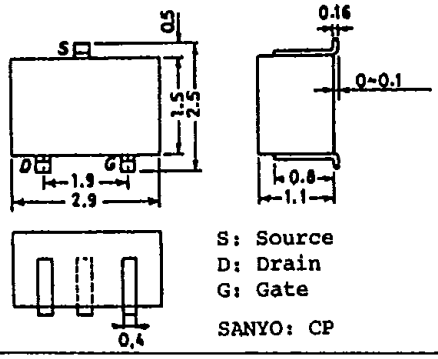
B: Base
C: Collector
E: Emitter
SANYO: MCP

Case Outline—[2062] unit: mm



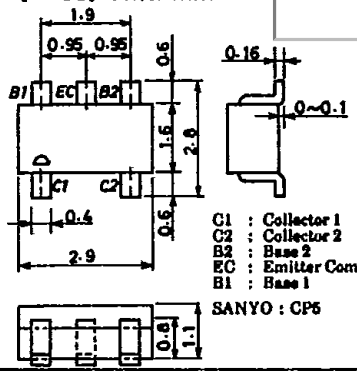
S: Source
D: Drain
G: Gate
SANYO: PCP

Case Outline—[2065] unit: mm



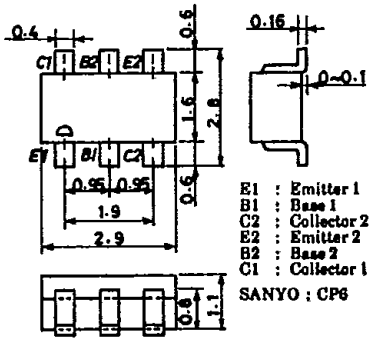
S: Source
D: Drain
G: Gate
SANYO: CP

Case Outline—[2066] unit: mm



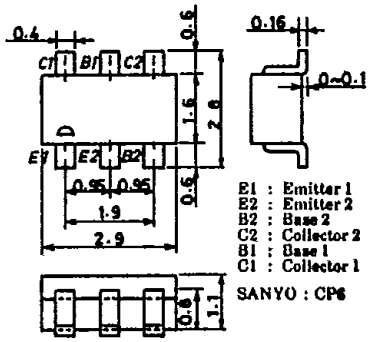
C1 : Collector 1
C2 : Collector 2
B2 : Base 2
EC : Emitter Common
B1 : Base 1
SANYO : CP6

Case Outline—[2067] unit: mm



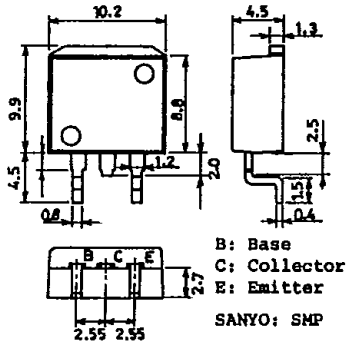
E1 : Emitter 1
B1 : Base 1
C2 : Collector 2
E2 : Emitter 2
B2 : Base 2
C1 : Collector 1
SANYO : CP6

Case Outline—[2068] unit: mm



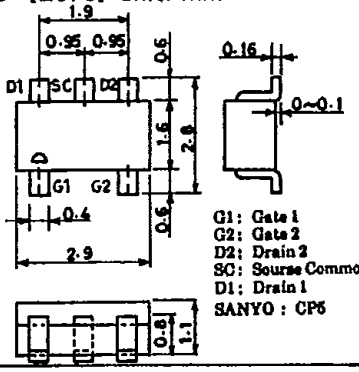
E1 : Emitter 1
E2 : Emitter 2
B2 : Base 2
C2 : Collector 2
B1 : Base 1
C1 : Collector 1
SANYO : CP6

Case Outline—[2069] unit: mm



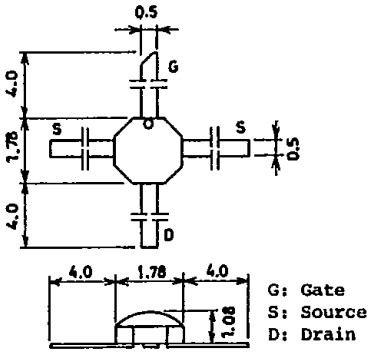
B: Base
C: Collector
E: Emitter
SANYO: SMP

Case Outline—[2070] unit: mm

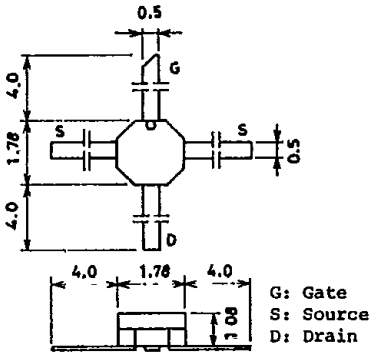


G1: Gate 1
G2: Gate 2
D2: Drain 2
SC: Source Common
D1: Drain 1
SANYO : CP6

Case Outline—[2071] unit: mm



Case Outline—[2072] unit: mm



Case Outline—[2073] unit: mm