

# 2SK931



2050

N-Channel Junction

## 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 $T_a = 25^\circ\text{C}$

			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	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### Electrical Characteristics at $T_a = 25^\circ\text{C}$

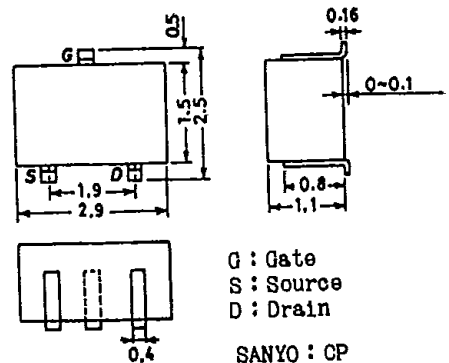
			min	typ	max	unit
Gate to Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu\text{A}, V_{DS} = 0\text{V}$	-30			V
Gate Cutoff Current	$I_{GSS}$	$V_{GS} = -20\text{V}, V_{DS} = 0\text{V}$			-1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5\text{V}, I_D = 100\mu\text{A}$	-0.3	-0.8	-2.0	V
Drain Current	$I_{DSS}$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

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

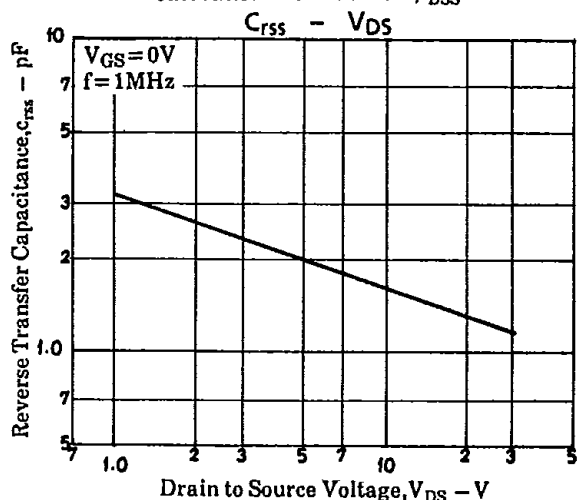
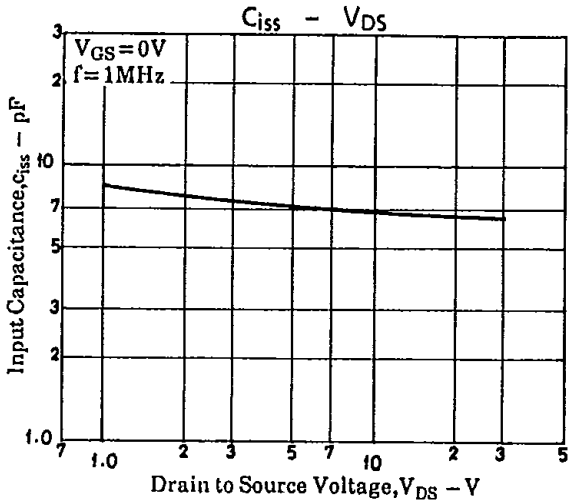
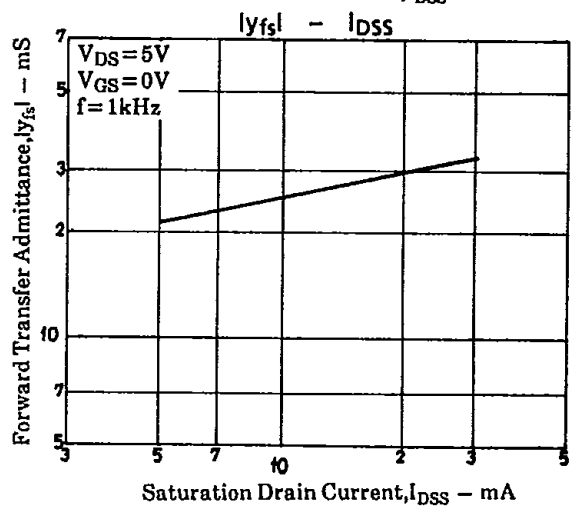
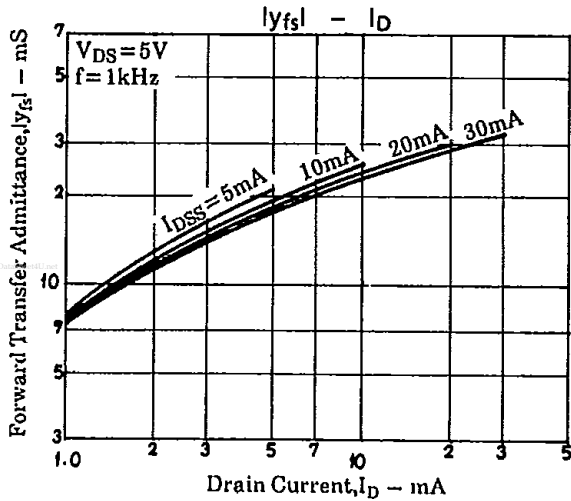
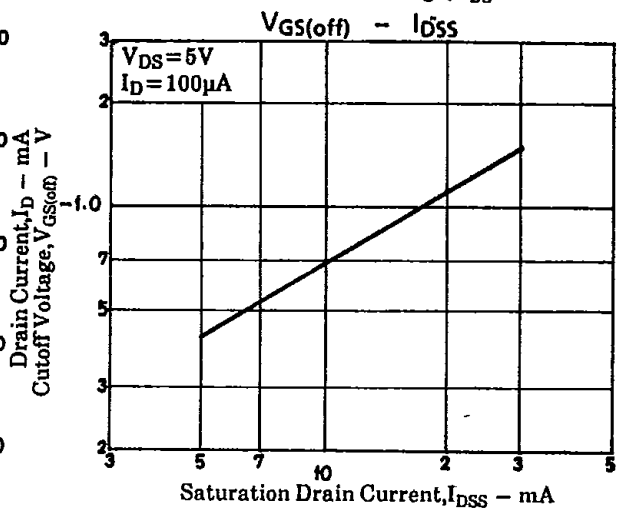
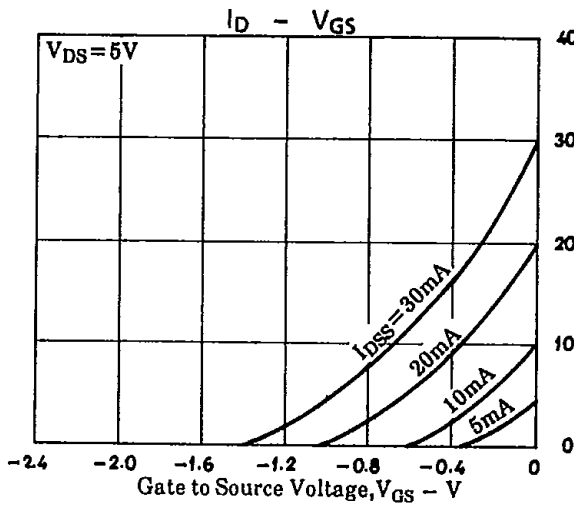
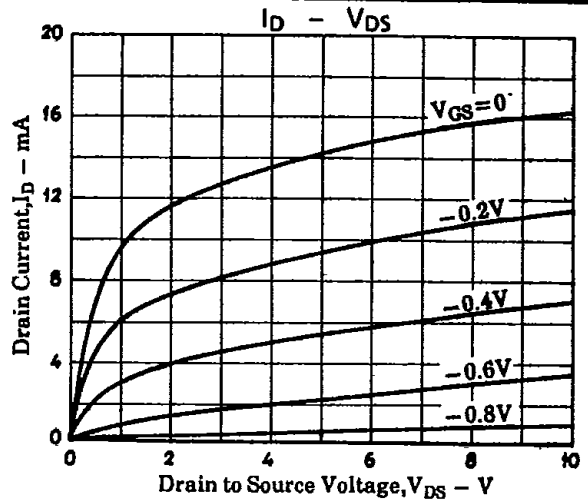
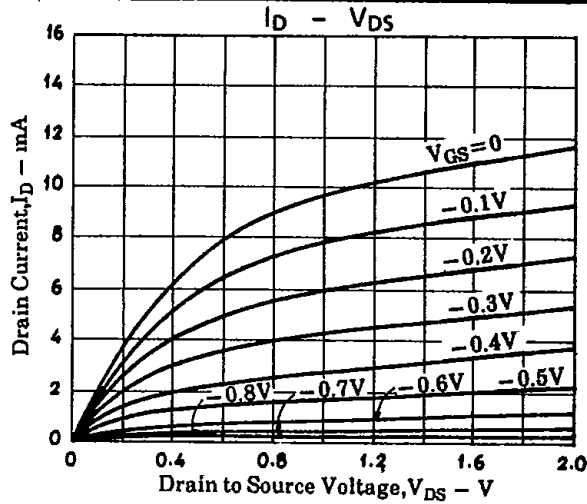
5.0	21	8.5	7.3	22	12.0	10.0	23	17.0	14.5	24	24.0	18.0	25	30.0
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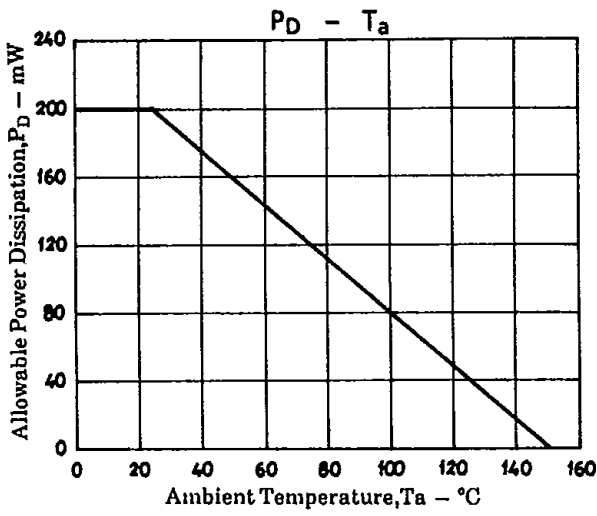
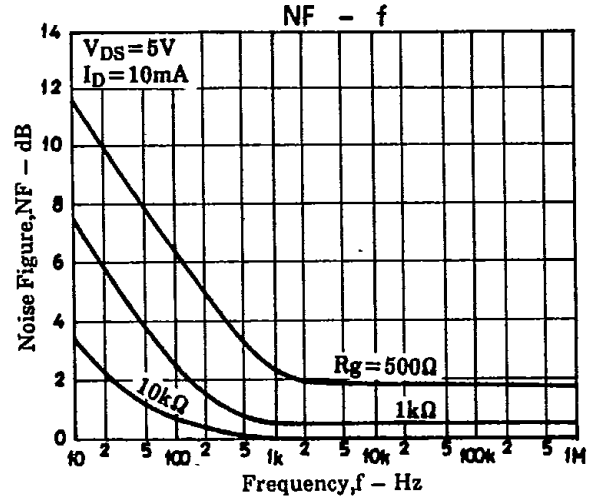
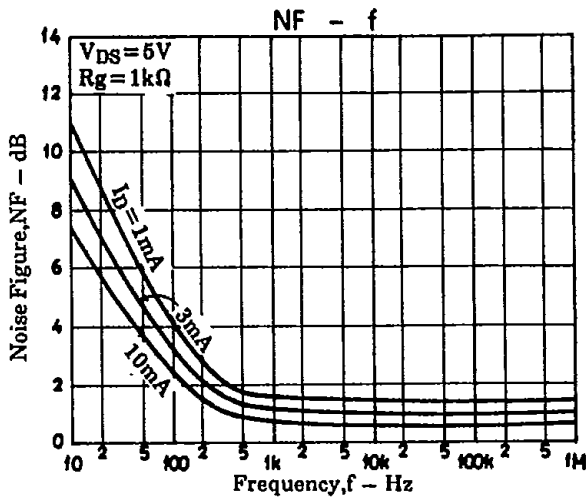
(Note) Marking: D  
 $I_{DSS}$  rank: 21,22,23,24,25

### Case Outline 2050 (unit: mm)



2SK931

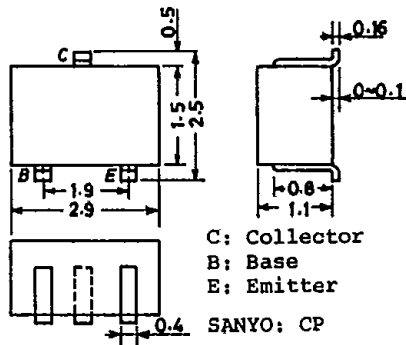




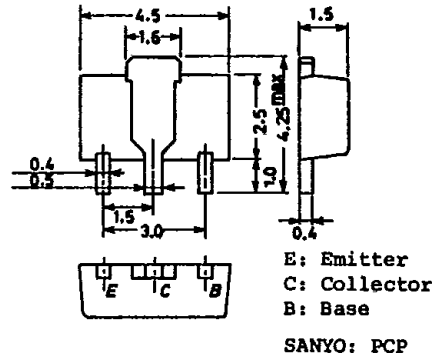
# CASE OUTLINES OF SURFACE MOUNT TRANSISTORS

- 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.

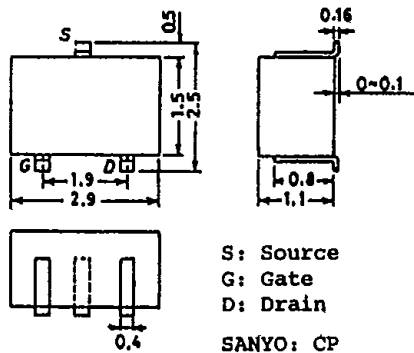
Case Outline—[2018A] unit: mm



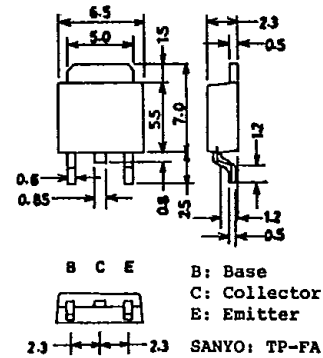
Case Outline—[2038] unit: mm



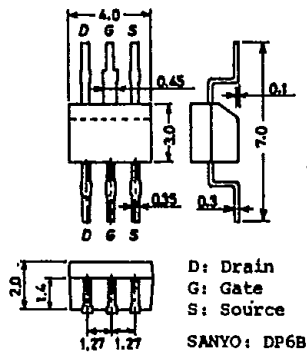
Case Outline—[2024A] unit: mm



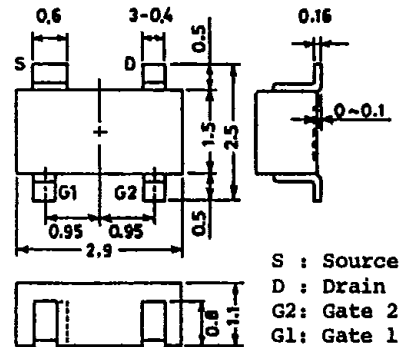
Case Outline—[2044] unit: mm



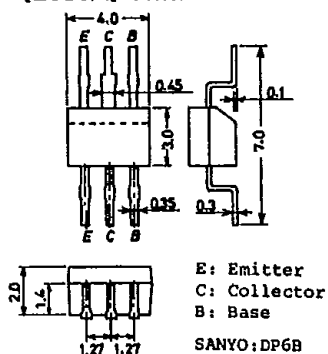
Case Outline—[2028A] unit: mm



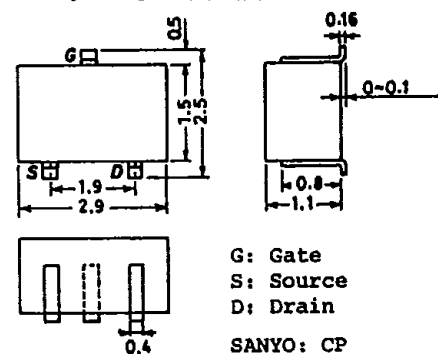
Case Outline—[2046] unit: mm



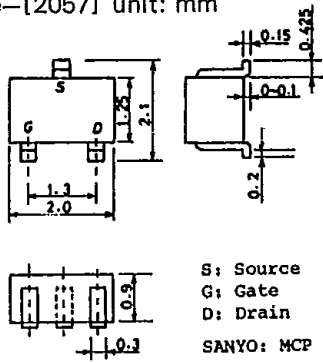
Case Outline—[2030A] unit: mm



Case Outline—[2050] unit: mm

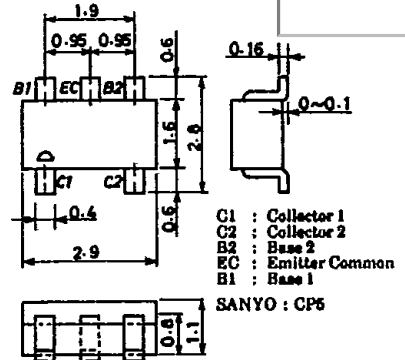


Case Outline—[2057] unit: mm



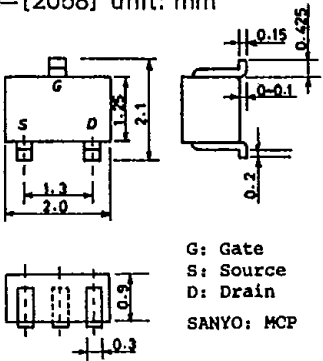
S: Source  
G: Gate  
D: Drain  
SANYO: MCP

Case Outline—[2066] unit: mm



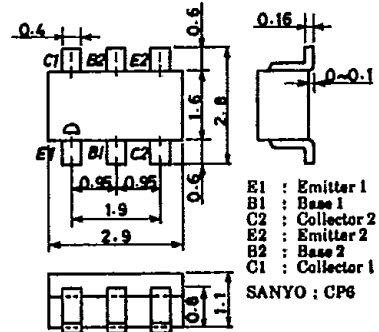
C1 : Collector 1  
C2 : Collector 2  
B2 : Base 2  
EC : Emitter Common  
B1 : Base 1  
SANYO : CP6

Case Outline—[2058] unit: mm



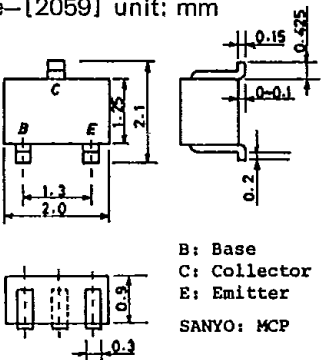
G: Gate  
S: Source  
D: Drain  
SANYO: MCP

Case Outline—[2067] unit: mm



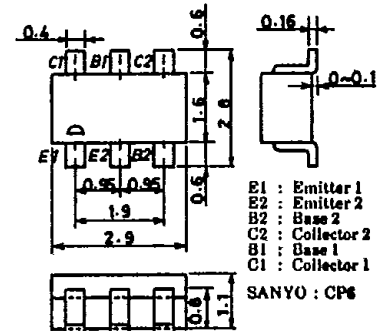
E1 : Emitter 1  
B1 : Base 1  
C2 : Collector 2  
E2 : Emitter 2  
B2 : Base 2  
C1 : Collector 1  
SANYO : CP6

Case Outline—[2059] unit: mm



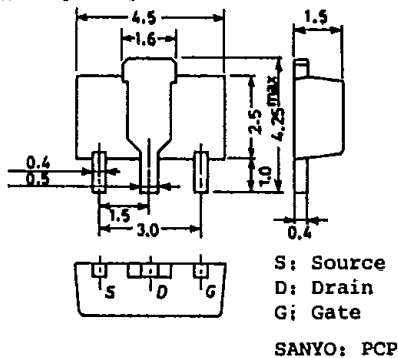
B: Base  
C: Collector  
E: Emitter  
SANYO: MCP

Case Outline—[2068] unit: mm



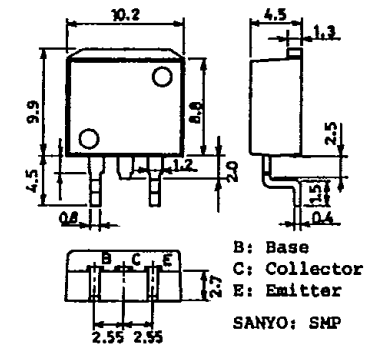
E1 : Emitter 1  
E2 : Emitter 2  
B2 : Base 2  
C2 : Collector 2  
B1 : Base 1  
C1 : Collector 1  
SANYO : CP6

Case Outline—[2062] unit: mm



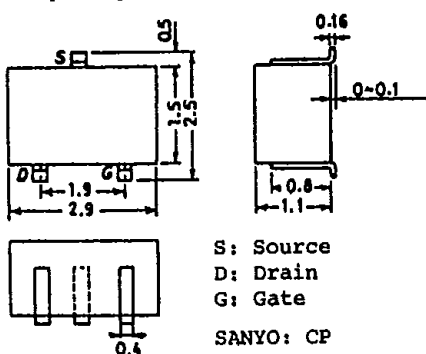
S: Source  
D: Drain  
G: Gate  
SANYO: PCP

Case Outline—[2069] unit: mm



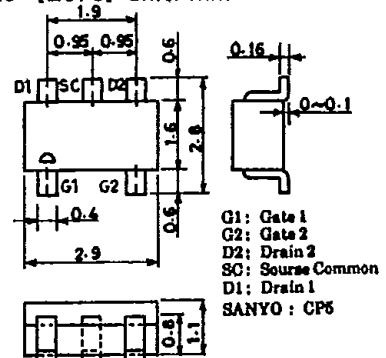
B: Base  
C: Collector  
E: Emitter  
SANYO: SMP

Case Outline—[2065] unit: mm



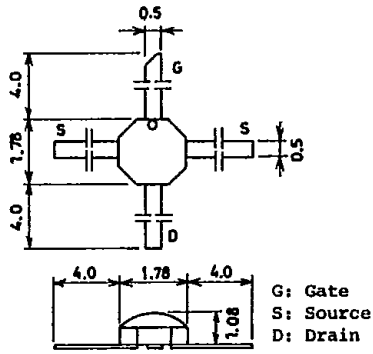
S: Source  
D: Drain  
G: Gate  
SANYO: CP

Case Outline—[2070] unit: mm

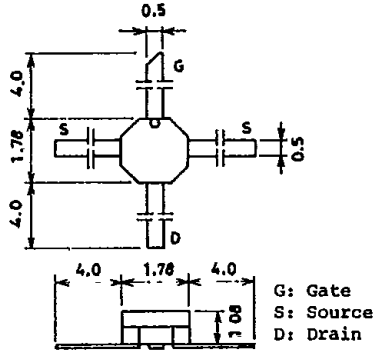


G1 : Gate 1  
G2 : Gate 2  
D2 : Drain 2  
SC : Source Common  
D1 : Drain 1  
SANYO : CP6

Case Outline-[2071] unit: mm



Case Outline-[2072] unit: mm



Case Outline-[2073] unit: mm

