

2SK687



2052A

N-Channel MOS
Silicon Field-Effect Transistor

T-39-11

High Speed Power Switching Applications

©2464A

Features

Low-on resistance, very high-speed switching, converters

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Value	unit
Drain to Source Voltage	V _{DS}	60	V
Gate to Source Voltage	V _{GS}	±20	V
Drain Current (DC)	I _D	10	A
Peak Drain Current (Pulse)	I _{D peak}	15	A
Allowable Power Dissipation	P _D	60	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

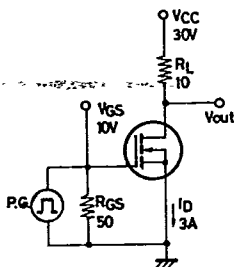
T_C=25°C

Electrical Characteristics at Ta=25°C

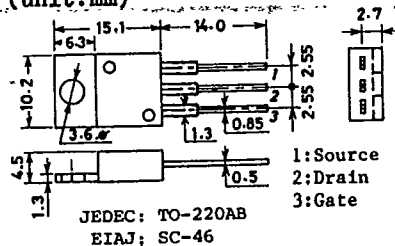
Parameter	Symbol	Test Conditions	min	typ	max	unit
D-S Breakdown Voltage	V _{DSS}	I _D =1mA, V _{GS} =0	60			V
Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0			100	uA
G-S Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0			±100	nA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.5		4.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =5A	2.5	3.5		S
Saturation Resistance	r _{DS(on)}	I _D =5A, V _{GS} =10V	0.12	0.18		ohm
Input Capacitance	c _{iss}	V _{DS} =20V, f=1MHz		700		pF
Output Capacitance	c _{oss}	V _{DS} =20V, f=1MHz		400		pF
Reverse Transfer Capacitance	c _{rss}	V _{DS} =20V, f=1MHz		130		pF
Turn-on Time	t _{on}	I _D =3A, V _{GS} =10V		70		ns
Turn-off Time	t _{off}	I _D =3A, V _{GS} =10V		95		ns

Note: Be careful in handling the 2SK687 because it has no protect diode between gate and source.

Switching Time Test Circuit



Case Outline 2052A (unit:mm)

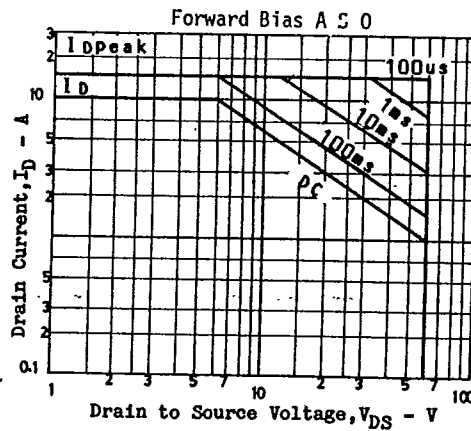
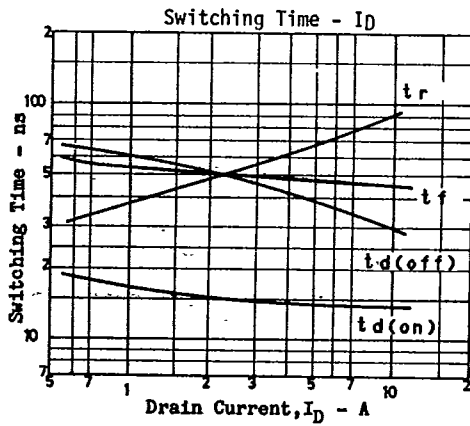
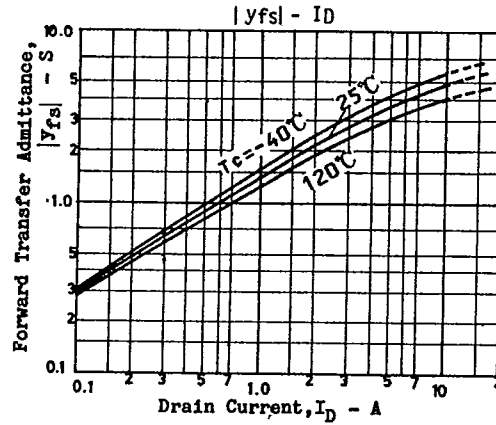
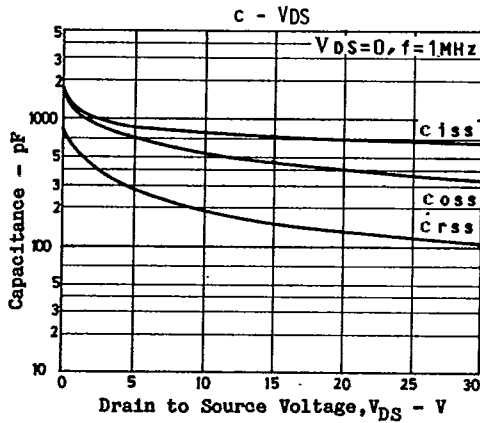
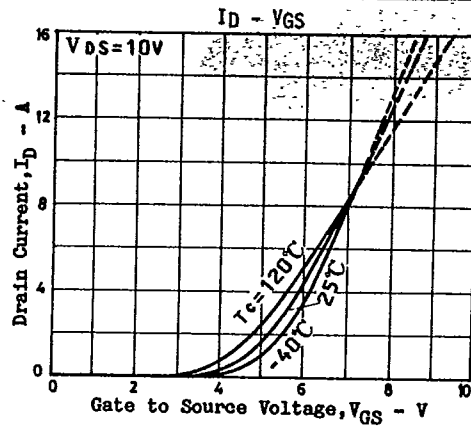
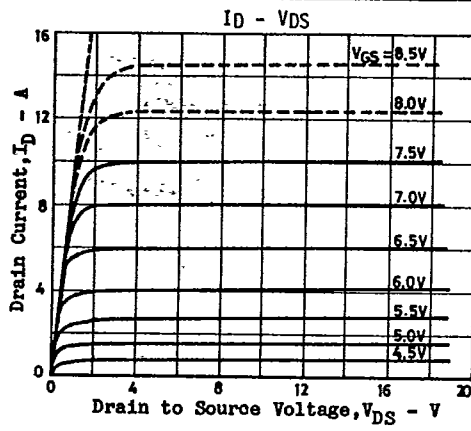


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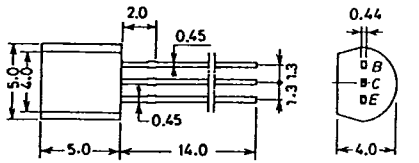
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CASE OUTLINES AND ATTACHMENTS

- All of Sanyo 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-[2003A]

unit:mm

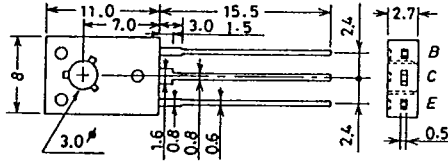


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

Case Outline-[2009A]

unit:mm

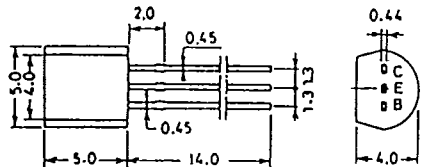


JEDEC: TO-126

B: Base
C: Collector
E: Emitter

Case Outline-[2004A]

unit:mm

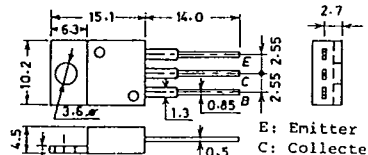


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

C. Collector
E. Emitter
B. Base

Case Outline-[2010A]

unit:mm

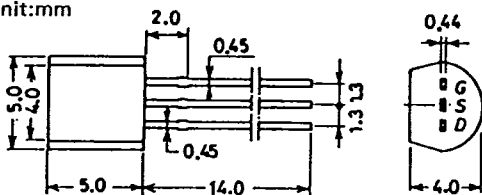


JEDEC: TO-220AB
EIAJ: SC-46

E: Emitter
C: Collector
B: Base

Case Outline-[2005A]

unit:mm

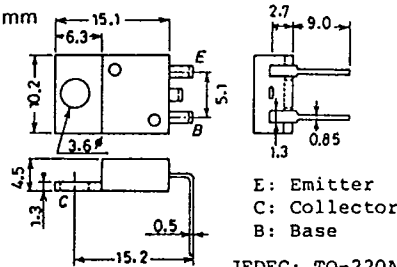


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

G: Gate
S: Source
D: Drain

Case Outline-[2012]

unit:mm

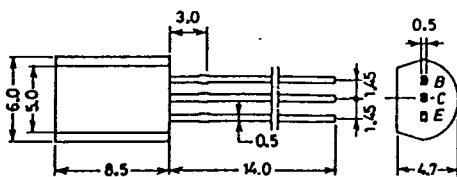


JEDEC: TO-220AA
EIAJ: SC-45

E: Emitter
C: Collector
B: Base

Case Outline-[2006A]

unit:mm

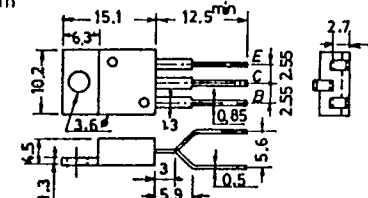


EIAJ: SC-51
SANYO: MP

B: Base
C: Collector
E: Emitter

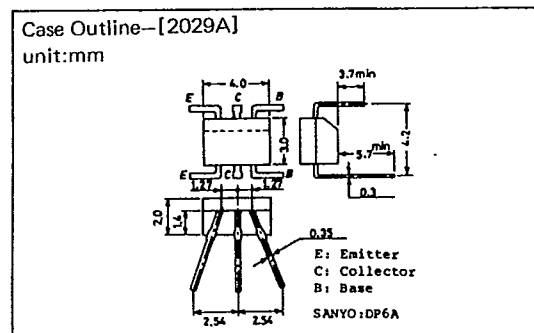
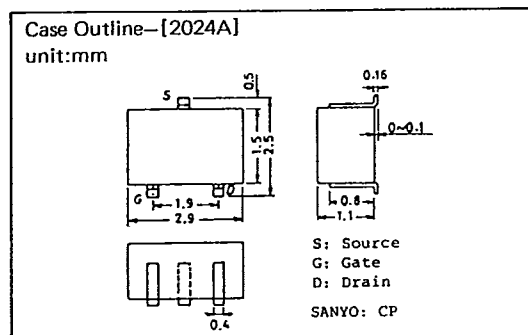
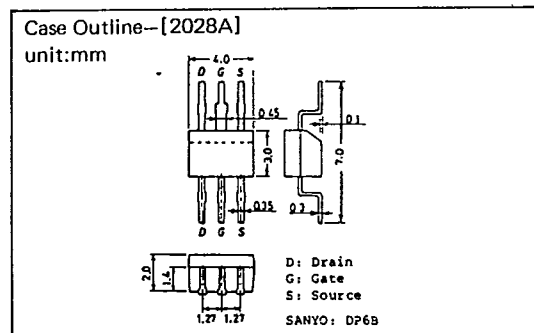
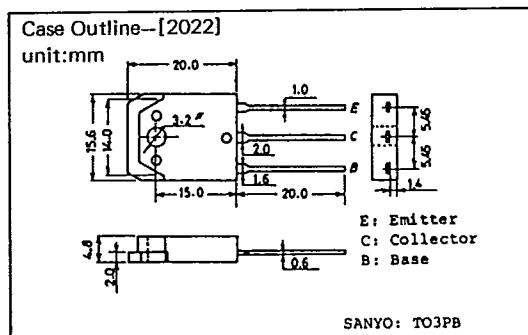
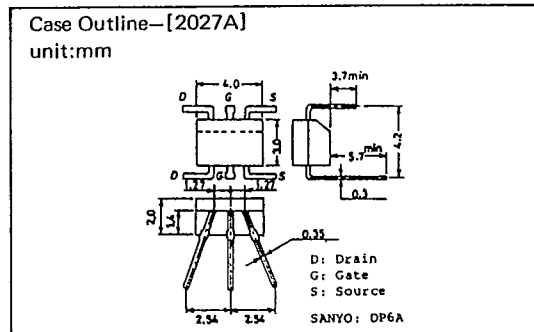
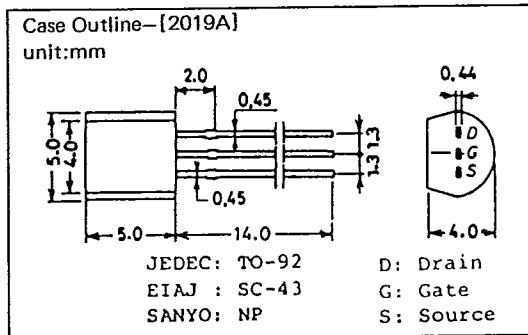
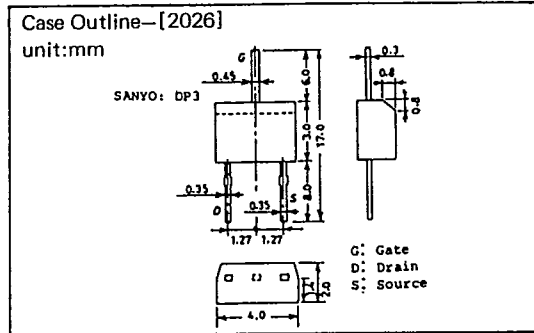
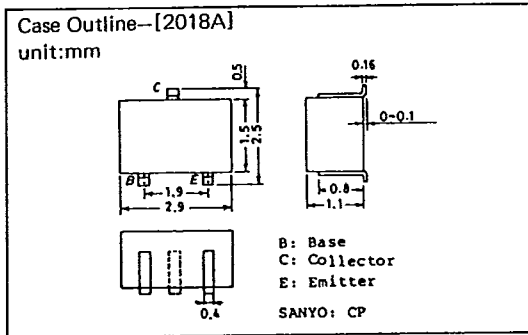
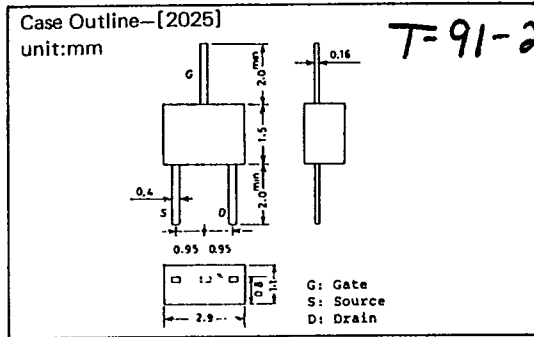
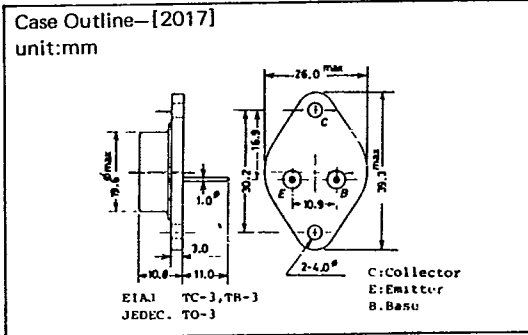
Case Outline-[2013]

unit:mm



JEDEC TO-220

B: Base
C: Collector
E: Emitter



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