Ordering number: EN 2959A

SANYO

No.2959A

2SC4003

NPN Triple Diffused Planar Silicon Transistor

High-Voltage Driver Applications

Features

- High breakdown voltage
- Adoption of MBIT process
- Excellent h_{FE} linearity

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector to Base Voltage	V_{CBO}		400	V
Collector to Emitter Voltage	V_{CEO}		400	V
Emitter to Base Voltage	V_{EBO}		5	V
Collector Current	I_C		200	mA
Collector Current(Pulse)	I_{CP}		400	mA
Collector Dissipation	P_C		1	W
		Tc = 25°C	10	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 300V, I_E = 0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4V, I_C = 0			0.1	μA
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 50mA	60※		200※	
Gain-Bandwidth Product	f_T	V_{CE} = 30V, I_C = 10mA		70		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = 50mA, I_B = 5mA			0.6	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = 50mA, I_B = 5mA			1.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	400			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, R_{BE} = ∞	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	5			V

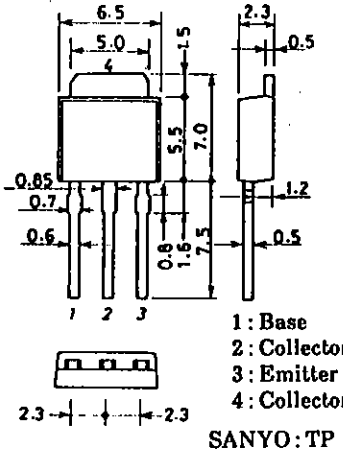
Continued on next page.

※ : The 2SC4003 is classified by 50mA h_{FE} as follows :

60 D 120	100 E 200

Package Dimensions 2045B

(unit : mm)

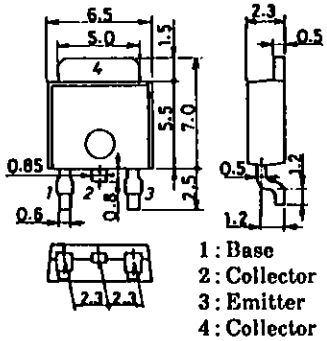


1 : Base
2 : Collector
3 : Emitter
4 : Collector

SANYO : TP

Package Dimensions 2044B

(unit : mm)



1 : Base
2 : Collector
3 : Emitter
4 : Collector

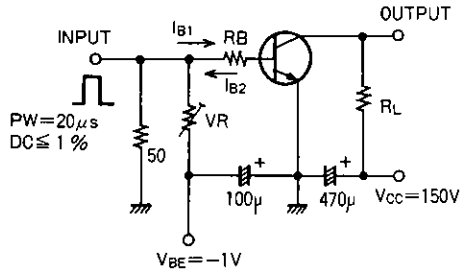
SANYO : TP-FA

SANYO Electric Co., Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Continued from preceding page.

			min	typ	max	unit
Output Capacitance	c_{ob}	$V_{CB}=30V, f=1MHz$		4		pF
Reverse Transfer Capacitance	c_{re}	$V_{CB}=30V, f=1MHz$		3		pF
Turn-ON Time	t_{on}	See specified Test Circuit.		0.25		μs
Turn-OFF Time	t_{off}	〃		5.0		μs

Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)

$10I_{B1}=-10I_{B2}=I_C=50mA$

$R_L=3k\Omega$, $R_B=200\Omega$ at $I_C=50mA$