Ordering number : 2 5 4 5

SANYO Semiconductors

DATA SHEET

2SA1604
2SC4156

PNP/NPN Epitaxial Planar Type Silicon Transistors

High-Speed Switching Applications

Features

- Adoption of FBET process
- High breakdown voltage (V_{CEO}=(-)50V)
- Large current capacity and high f_T
- Small-sized package (DP6) permitting sets to be made smaller and slimmer

( ): 2SA1604

Absolute Maximum Ratings at Ta=25°C

				unit
Collector to Base Voltage	V_{CBO}		(-)60	V
Collector to Emitter Voltage	V_{CEO}		(-)50	V
Emitter to Base Voltage	V_{EBO}		(-)5	V
Collector Current	I_C		(-)500	mA
Peak Collector Current	i_{cp}		(-)800	mA
Collector Dissipation	P_C	1 unit	200	mW
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}=(-)40V, I_E=0			(-)0.1	uA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)4V, I_C=0			(-)0.1	uA
DC Current Gain	h_{FE}	V_{CE}=(-)5V, I_C=(-)10mA	100*		560*	
DC Current Gain Ratio	$h_{FE(small/large)}$	V_{CE}=(-)5V, I_C=(-)10mA	0.8		1.0	
Base to Emitter Voltage Difference	$V_{BE(large-small)}$	V_{CE}=(-)5V, I_C=(-)10mA		1.0	10	mV
Gain-Bandwidth Product	f_T	V_{CE}=(-)10V, I_C=(-)50mA		300		MHz
				(200)		MHz
Output Capacitance	C_{ob}	V_{CB}=(-)10V, f=1MHz		3.7		pF
				(5.6)		pF

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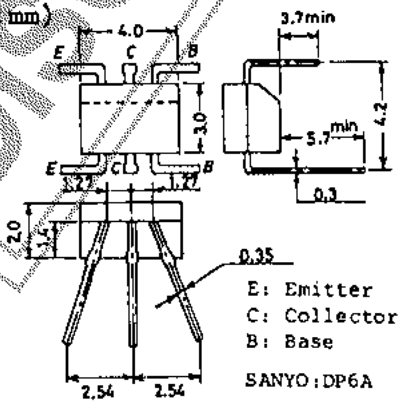
*: The 2SA1604/2SC4156 are classified by 10mA h_{FE}(small) as follows:

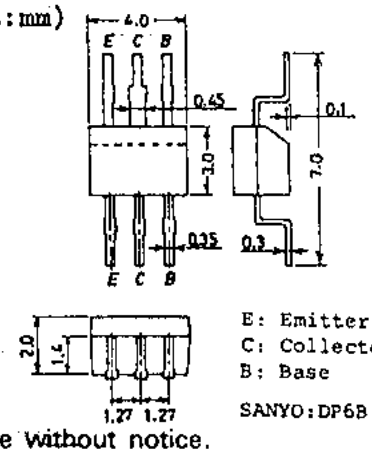
100	R	200	140	S	280	200	T	400	280	U	560

Case Outline 2029A
(unit:mm)



E: Emitter
C: Collector
B: Base
SANYO:DP6A

Case Outline 2030A
(unit:mm)



E: Emitter
C: Collector
B: Base
SANYO:DP6B

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			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=(-)100mA, I_B=(-)10mA		0.1	0.3	V
				(0.15)	(0.4)	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=(-)100mA, I_B=(-)10mA		0.8	1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)10uA, I_E=0	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=100uA, R_{BE}=∞	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)10uA, I_C=0	(-)5			V