Ordering number : 9 7 7 C

SANYO Semiconductors

DATA SHEET

Silicon PNP Epitaxial Planar Composite Transistor

2SA1240 — Differential Amp Applications

Applications

. Differential amp, current mirror.

Features

. Excellent in thermal equilibrium and suited for use in first-stage differential amp.
. Low noise.
. Matched pair capability.

Absolute Maximum Ratings at Ta=25°C

				unit
Collector to Base Voltage	V_{CBO}		-130	V
Collector to Emitter Voltage	V_{CEO}		-120	V
Emitter to Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-50	mA
Peak Collector Current	i_{cp}		-100	mA
Collector Dissipation	P_C	1 unit	200	mW
Total Dissipation	P_T		400	mW
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

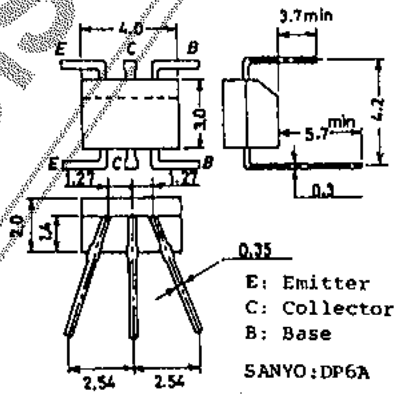
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=-80V, I_E=0			-0.1	uA
Emitter Cutoff Current	I_{EBO}	V_{EB}=-4V, I_C=0			-0.1	uA
DC Current Gain	h_{FE}	V_{CE}=-6V, I_C=-1mA	160*		560*	
DC Current Gain Ratio	$h_{FE(small/large)}$	V_{CE}=-6V, I_C=-1mA	0.85	0.98		

Continued on next page.

* The 2SA1240 is classified by h_{FE} (small) as follows:

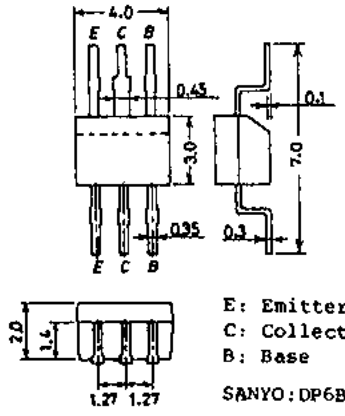
160	F	320	280	G	560

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

SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Continued from preceding page.

			min	typ	max	unit
Base to Emitter Voltage Drop	$V_{BE(large-small)}$	V_{CE}=-6V,I_C=-1mA		1.0	10	mV
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-10mA,I_B=-1mA			-0.5	V
Gain-Bandwidth Product	f_T	V_{CE}=-6V,I_C=-1mA		110		MHz
Output Capacitance	C_{ob}	V_{CB}=-10V,f=1MHz		2.0		pF
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-10uA,I_E=0	-130			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-1mA,R_{BE}=∞	-120			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=-10uA,I_C=0	-5			V
Noise Level	$V_{NO(ave)}$	V_{CC}=30V,I_C=1mA, Rg=56kohm,VG=77dB/1kHz			35	mV
Noise Peak Level	$V_{NO(peak)}$	V_{CC}=30V,I_C=1mA, Rg=56kohm,VG=77dB/1kHz			200	mV