

NEW PRODUCT PCP4/5 series :FP series(1)

High performance composite type devices suitable for surface mounting which make the sets smaller and lighter. In these times the advantage of new products is to make sets smaller and lighter. Thus, the main market need is that discrete devices are "high performance" as well as being able to realize lighter, thinner, shorter and smaller sets. We have developed a new product PCP4/5 series to meet these needs. This PCP4/5 series has curtailed a surface mounting area compared with conventional products by 30-50% and has decreased the number of assembling parts. This is the most suitable for making DC-DC converters smaller and lighter.

* Features : This PCP4/5 series can curtail a mounting area by 30-50% and can decrease the number of assembling parts by half.
note: Marking is the figures of Type No.

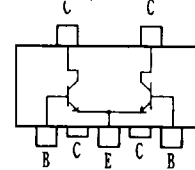
* When mounted on ceramic board (25.0mm² × 0.8mm) (1 unit)

dc High frequency differential amplifier Transistors (PNP×PNP, NPN×NPN)

For PNP, (-) sign is omitted.

Type No.	Package	Absolute Maximum Ratings /Ta=25°C					Electrical characteristics/Ta=25°C						Related Type No. (Chips used)
		V _{CBO} (V)	V _{CEO} (V)	I _C (A)	*P _C lunit (W)	*P _T (W)	V _{CE} /I _C (V/mA)	h _{FE}	V _{CE} /I _C (V/mA)	f _T typ (GHz)	V _{CB} (V)	Cob typ (pF)	
FP201 FP215	PCP5	30 30	20 20	0.3 0.3	0.75 0.75	1 1	5/50 5/50	60-200 15-100	5/50 5/50	2.2 1.5	10 10	2.9 4.9	C4504X2 A1724X2

Electrical connection (Top view)
FP201, FP208-FP211, FP213-FP216.
(NPN×NPN)

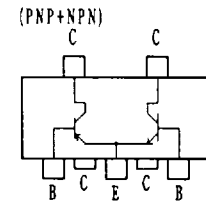


dc Push-pull circuit Transistors (PNP+NPN)

For PNP, (-) sign is omitted.

Type No.	Package	Absolute Maximum Ratings /Ta=25°C						Electrical characteristics/Ta=25°C					Related Type No. (Chips used)
		V _{CBO} (V)	V _{CEO} (V)	I _C (A)	i _{cp} (A)	*P _C lunit (W)	*P _T (W)	V _{CE} /I _C (V/mA)	h _{FE}	I _C /I _B (A/mA)	V _{CE(sat)} typ (V)		
FP202 FP203 FP204 FP205 FP206 FP207	PCP5	60 60 60 120 50 50	50 50 50 100 40 40	0.5 1 2 1 0.5 1.5	0.8 2 4 2 1 3	0.75 0.75 0.8 0.8 0.75 0.8	1 1 1.1 1.1 1 1.1	5/10 2/100 2/100 5/100 2/50 2/100	140-400 140-400 140-400 140-400 100-400 100-280/100-400	0.1/10 0.5/50 1/50 0.4/40 0.2/10 0.8/40	0.1/0.07 0.18/0.12 0.25/0.15 0.2/0.1 0.2/0.15 0.3/0.25	A1338+C3392 B1122+D1622 B1123+D1623 A1416+C3646 A1728+C4519 A1729+C4520	

FP202-FP207, FP212



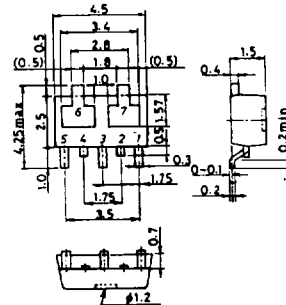
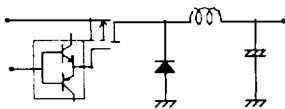
dc High-current switching Transistors (PNP×PNP, NPN×NPN)

For PNP, (-) sign is omitted.

FP208	PCP5	30	25	2	5	0.8	1.1	2/100	140-400	1.5/75	0.35	2SB1121X2
FP209		30	25	2	5			2/100	140-400	1.5/75	0.18	2SD1621X2
FP210		60	50	2	4			2/100	140-400	1/50	0.3	2SB1123X2
FP211		60	50	2	4			2/100	140-400	1/50	0.15	2SD1623X2
FP213		25	20	2	4			2/500	min 70	1/50	0.25	2SB1397X2
FP214		25	20	2	4			2/500	(RBE=1.6KΩ)	1/50	0.25	2SD2100X2
FP216		120	100	1	2			5/100	140-400	0.4/40	0.1	2SC3646X2

Application circuits
DC-DC converter(FP202-FP207)

SANYO:PCP5 (Bottom view)



dc High-voltage driver Transistors (PNP+NPN)

For PNP, (-) sign is omitted.

Type No.	Package	Absolute Maximum Ratings /Ta=25°C					Electrical characteristics/Ta=25°C							Related Type No. (Chips used)		
		V _{CBO} (V)	V _{CEO} (V)	I _C (A)	*P _C lunit (W)	*P _T (W)	V _{CE} /I _C (V/mA)	h _{FE}	V _{CE} /I _C (V/mA)	f _T typ (MHz)	V _{CB} (V)	Cob typ (pF)	Cre typ (pF)			
FP212	PCP5	200	200	0.1	0.75	1	10/10	60-200	30/10	150	30	2.6/1.7	1.7/1.2	20/2	0.6	A1370+C3467