

Transistors for Very High-Definition CRT Display Horizontal Deflection Output Use (3)

Dynamic Focus Use (No picture ever out of focus with better focus characteristics)

High reliability and high breakdown voltage (HVP technology) make it possible to make the grid voltage higher and the collector capacitance is made small to make high-frequency operation possible.

New outline: a product line of TO-220FI(LS)(full Isolation: Perfect isolation type) is provided and is possible to be changed from TO-220.

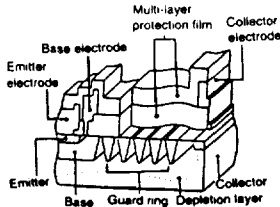
HVP Product features(HVP:High-voltage planar)

In conventional transistor structure, the depletion region expansion required by high withstand voltage operation is unstable. To make the depletion layer expand steadily, diffusion layers (guard rings) of the same conduction type as that of the base layer were made within the collector.

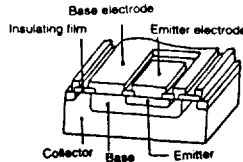
This allows the depletion layer from the base-collector junction to expand with the depletion layers of the guard rings one after the other, resulting in a stable depletion layer cross the collector.

In addition, a multi-layer protection film is added to prevent the withstand voltage level changing due to device status, producing high-reliability devices with high withstand voltages.

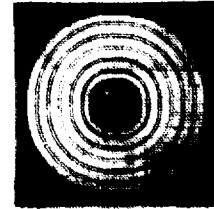
Isometric cross section
HVP (High-voltage planar)



Conventional products



Dynamic focus transistor chip

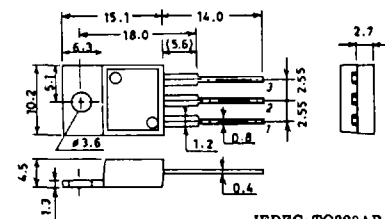


Features *High breakdown voltage *Small Cob *Wide ASO *High reliability
☆:Tc=25°C

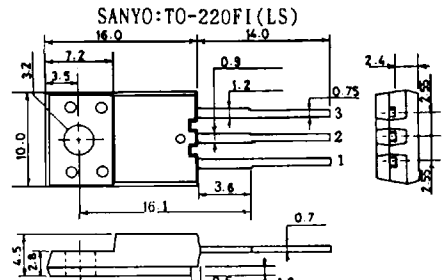
Type No.	Package	Absolute Maximum Ratings /Ta=25°C				Electrical Characteristics /Ta=25°C					
		V _{CBO} (V)	V _{CEO} (V)	I _C (A)	P _C (W)	V _{CE} (V)	I _C (mA)	h _{FE}		V _{CB} (V)	C _{ob} typ (PF)
2SC3675	TO-220	1500	900	0.1	☆10	5	10	min30	100	2.8	
2SC3676		1500	900	0.3	☆20		30	min30		5	
2SC4256		1500	1200	10m	1.75		0.5	10 ~ 60		1.6	
2SC4257		1500	1200	30m	1.75		1.5	10 ~ 60		2.0	
2SC4450		1500	1500	5m	1.75		0.2	10 ~ 60		1.5	
2SC4451		1500	1500	15m	1.75		0.6	10 ~ 60		1.9	
2SC4475		2000	1800	3m	1.75		0.1	10 ~ 60		1.4	
2SC4476		2000	1800	10m	1.75		0.3	10 ~ 60		1.8	
2SC4709		2100	2100	10m	1.75		0.5	10 ~ 60		1.3	
2SC4630LS	TO-220FI (LS)	1500	900	0.1	2	5	10	min30	100	2.8	
2SC4631LS		1500	900	0.3			30	min30		5.0	
2SC4632LS		1500	1200	10m			0.5	10 ~ 60		1.6	
2SC4633LS		1500	1200	30m			1.5	10 ~ 60		2.0	
2SC4634LS		1500	1500	10m			0.2	10 ~ 60		1.5	
2SC4635LS		1500	1500	20m			0.6	10 ~ 60		1.9	
2SC4636LS		2000	1800	10m			0.1	10 ~ 60		1.4	
2SC4637LS		2000	1800	15m			0.3	10 ~ 60		1.8	
2SC4710LS		2100	2100	10m			0.5	10 ~ 60		1.3	
2SC4887LS			2500	1200			0.1			5	10 ~ 60
2SC4888LS		2500	1200	0.3		20	10 ~ 60		4.0		

Case Outlines (unit:mm)

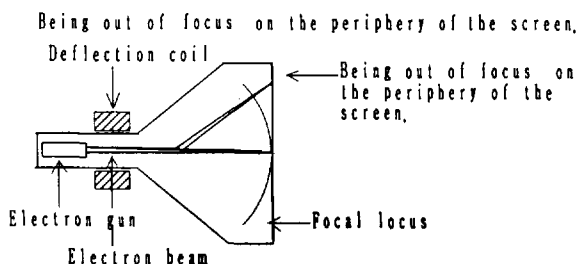
SANYO:TO-220
1:Base,2:Collector,3:Emitter.



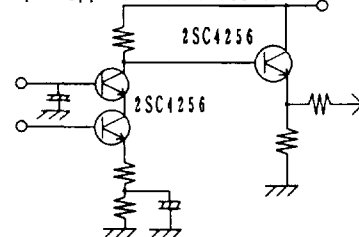
JEDEC: TO220AB
EIAJ: SC46



A spot size of an electron beam is always kept constant all over the CRT screen by changing a focus of a CRT's electron beam while scanning horizontally and vertically. This eliminates being out of focus of the screen and gives you a very clear image. Thus this technology is indispensable for high definition displays.



Sample application circuit



High-voltage transistors (HVP (High-voltage planar) process)

Type No.	Package	Main use	Absolute Maximum Ratings/Ta=25°C				Electrical Characteristics/Ta=25°C									
			V _{CBO} (V)	V _{CEO} (V)	I _C (A)	P _C (W)	V _{CE} (V)	I _C (A)	h _{FE}		V _{CE} (V)	I _C (A)	f _T typ (MHz)	I _C (A)	I _B (A)	V _{CE(sat)} typ (V)
									min	max						
2SC4572	TO-220	High voltage amp	800	800	20m	1.75	5	2m	20	~ 50	10	2m	40	10m	2m	1
2SC4578		High voltage	1700	900	50m	1.75	5	2m	20	~ 120	10	2m	6	5m	1m	5
2SC4579		switching	2000	900	20m	1.75	5	1m	20	~ 120	10	1m	6	2m	0.4m	5

In addition to these, TO-220MFs are available. see the table.

These specifications are subject to change without notice.