

(SMALL-SIGNAL TRANSISTOR)

**2SC5210**

**FOR SMALL TYPE COLOUR TV CHROMA OUTPUT APPLICATION  
SILICON NPN TRIPLE DIFFUSED TYPE**

**DESCRIPTION**

2SC5210 is a silicon NPN triple diffused transistor designed for colour TV chroma output circuit, high voltage switching circuit application.

**FEATURE**

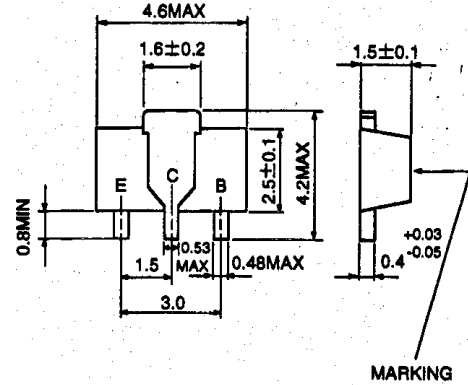
- High voltage  $V_{CE0}=250V$
- Low  $C_{ob}$   $C_{ob}=3.5pF$  typ
- High  $f_r$   $f_r=80MHz$  typ
- Small package for mounting

**APPLICATION**

Small type colour TV chroma output circuit, high voltage switching circuit.

**OUTLINE DRAWING**

Unit:mm

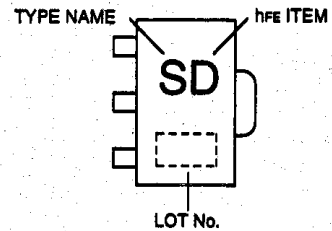


**TERMINAL CONNECTOR**

- E : EMITTER
- C : COLLECTOR EIAJ : SC-62
- B : BASE JEDEC : -

Note) The dimension without tolerance represent central value.

**MARKING**



**MAXIMUM RATINGS (Ta=25°C)**

Symbol	Parameter	Ratings	Unit
V <sub>CB0</sub>	Collector to Base voltage	300	V
V <sub>EB0</sub>	Emitter to Base voltage	5	V
V <sub>CE0</sub>	Collector to Emitter voltage	250	V
I <sub>c</sub>	Collector current	100	mA
P <sub>c</sub>	Collector dissipation(Ta=25°C)	500	mW
T <sub>j</sub>	Junction temperature	+150	°C
T <sub>stg</sub>	Storage temperature	-55 to +150	°C

**ELECTRICAL CHARACTERISTICS (Ta=25°C)**

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V <sub>(BR)CBO</sub>	C to B break down voltage	I <sub>c</sub> =10 μA, I <sub>E</sub> =0	300			V
V <sub>(BR)EBO</sub>	E to B break down voltage	I <sub>E</sub> =10 μA, I <sub>c</sub> =0	5			V
V <sub>(BR)CEO</sub>	C to E break down voltage	I <sub>c</sub> =5mA, R <sub>BE</sub> =∞, pulse measurement	250			V
I <sub>cBO</sub>	Collector cut off current	V <sub>CB</sub> =150V, I <sub>E</sub> =0			1	μA
h <sub>FE</sub> *	DC forward current gain	V <sub>CE</sub> =10V, I <sub>c</sub> =25mA	55		230	—
V <sub>CE(sat)</sub>	C to E saturation voltage	I <sub>c</sub> =25mA, I <sub>B</sub> =2.5mA			1.5	V
f <sub>r</sub>	Gain band width product	V <sub>CE</sub> =10V, I <sub>E</sub> =-10mA, f=10MHz	60	80		MHz
C <sub>ob</sub>	Collector output capacitance	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz, triode measurement		3.5		pF

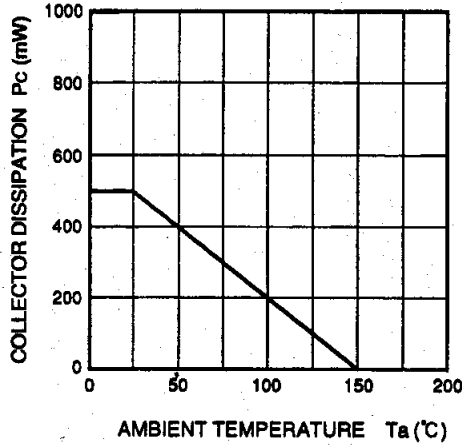
\* : It shows hFE classification in right table.

Marking	SC	SD	SE
hFE	55 to 110	90 to 180	150 to 230

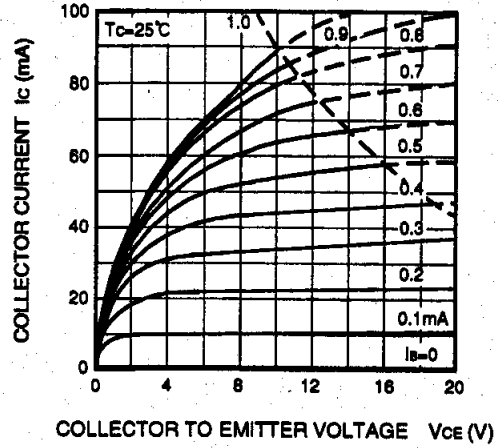
FOR SMALL TYPE COLOUR TV CHROMA OUTPUT APPLICATION  
SILICON NPN TRIPLE DIFFUSED TYPE

TYPICAL CHARACTERISTICS

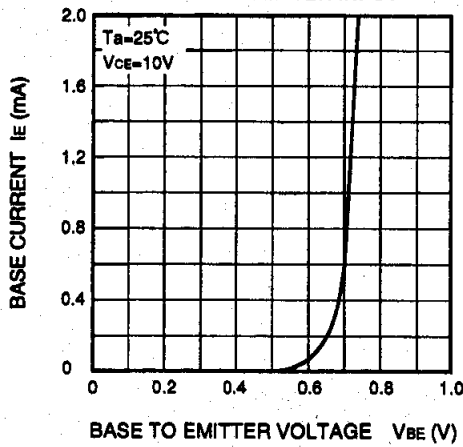
COLLECTOR DISSIPATION VS.  
AMBIENT TEMPERATURE



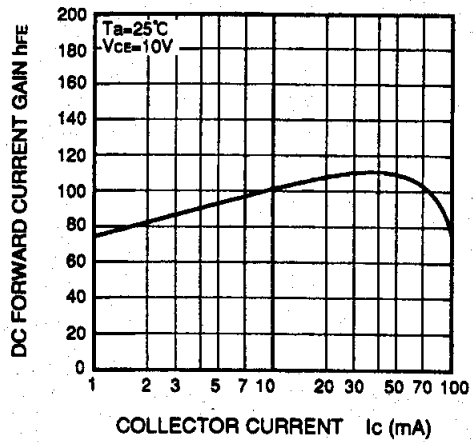
COMMON EMITTER OUTPUT



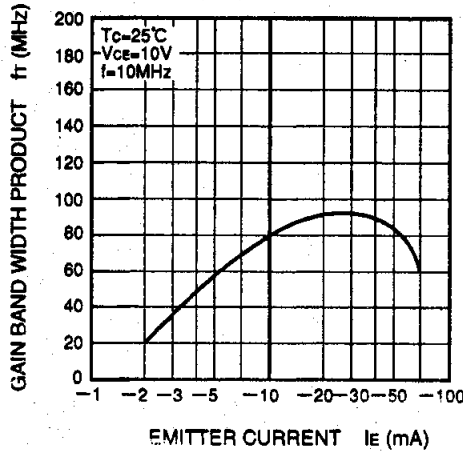
COMMON EMITTER INPUT



DC FORWARD CURRENT GAIN  
VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT  
VS. EMITTER CURRENT



---

The logo for IDC Isahaya Electronics Corporation features the letters 'IDC' in a stylized blue font with a red triangle above the 'I', followed by the company name 'ISAHAYA ELECTRONICS CORPORATION' in a bold, black, serif font.

<http://www.idc-com.co.jp>  
6-41, TSUKUBA, ISAHAYA, NAGASAKI, 854-0065, JAPAN

Keep safety in your circuit designs !

Isahaya Electronics Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of non-flammable material or (iii) prevention against any malfunction or mishap.

Notes regarding these materials

·These materials are intended as reference to assist out customers in the selection of the Isahaya semiconductor product best suited to the customer's application, they do not convey any license under any intellectual property rights, or any other rights, belonging to Isahaya Electronics Corporation or a third party.  
·Isahaya Electronics Corporation assumes no responsibility for any damage, or infringement of any third-party rights, originating in the use of any product data, diagrams, charts or circuit application examples contained in the materials.  
·All information contained in these materials, including product data, diagrams and charts, represent information on products at the time of publication of these materials, and are subject to change by Isahaya Electronics Corporation without notice due to product improvements or other reasons. It is therefore recommended that customers contact Isahaya Electronics Corporation or authorized Isahaya Semiconductor product distributor for the latest product information before purchasing a product listed herein.  
·The prior written approval of Isahaya Electronics Corporation is necessary to reprint or reproduce in whole or in part these materials.  
·If these products or technologies are subject to the Japanese export control restrictions, they must be exported under a license from the Japanese government and cannot be imported into a country other than the approved destination. Any diversion or reexport contrary to the export control laws and regulations of Japan and/or the country of destination is prohibited.  
·Please contact Isahaya Electronics Corporation or an authorized Isahaya Semiconductor product distributor for further details on these materials or the products contained therein.

---