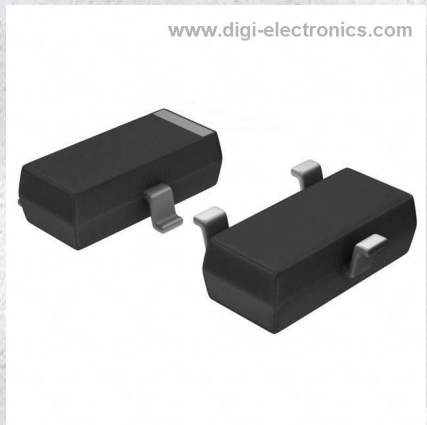
2SA10220CL Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	2SA10220CL-DG
Manufacturer	Panasonic Electronic Components
Manufacturer Product Number	2SA10220CL
Description	TRANS PNP 20V 0.03A MINI3
Detailed Description	Bipolar (BJT) Transistor PNP 20 V 30 mA 300MHz 200 mW Surface Mount Mini3-G1

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
2SA10220CL	Panasonic Electronic Components
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
PNP	30 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
20 V	100mV @ 1mA, 10mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100µA	110 @ 1mA, 10V
Power - Max:	Frequency - Transition:
200 mW	300MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
TO-236-3, SC-59, SOT-23-3	Mini3-G1
Base Product Number:	
2SA10220	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
RoHS non-compliant	1 (Unlimited)
ECCN:	HTSUS:
EAR99	8541.21.0075

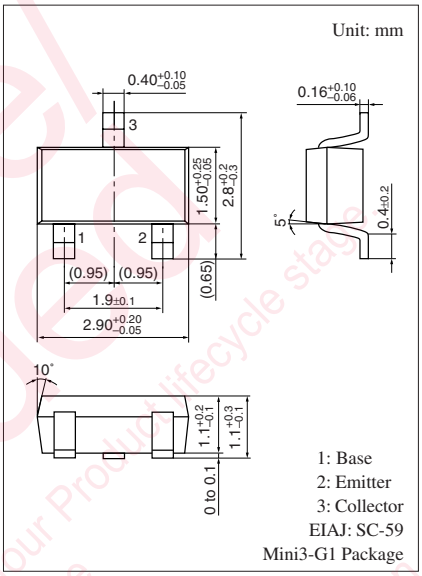
2SA1022

Silicon PNP epitaxial planar type

For high-frequency amplification
Complementary to 2SC2295

■ Features

- High frequency voltage f_T
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing



Marking Symbol: E

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	−30	V
Collector-emitter voltage (Base open)	V_{CEO}	−20	V
Emitter-base voltage (Collector open)	V_{EBO}	−5	V
Collector current	I_C	−30	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

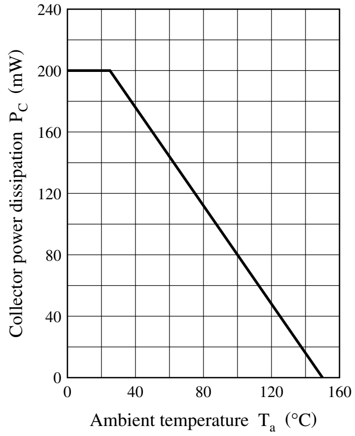
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Base-emitter voltage	V_{BE}	$V_{CE} = -10$ V, $I_C = -1$ mA		− 0.7		V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -10$ V, $I_E = 0$			− 0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -20$ V, $I_B = 0$			−100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$			−10	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = -10$ V, $I_C = -1$ mA	70		220	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10$ mA, $I_B = -1$ mA		− 0.1		V
Transition frequency	f_T	$V_{CB} = -10$ V, $I_E = 1$ mA, f = 200 MHz	150	300		MHz
Noise figure	NF	$V_{CB} = -10$ V, $I_E = 1$ mA, f = 5 MHz		2.8		dB
Reverse transfer impedance	Z_{rb}	$V_{CB} = -10$ V, $I_E = 1$ mA, f = 2 MHz		22		Ω
Reverse transfer capacitance (Common emitter)	C_{re}	$V_{CE} = -10$ V, $I_C = -1$ mA, f = 10.7 MHz		1.2		pF

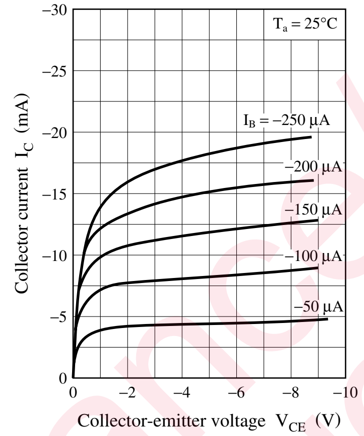
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

Rank	B	C
h_{FE}	70 to 140	110 to 220

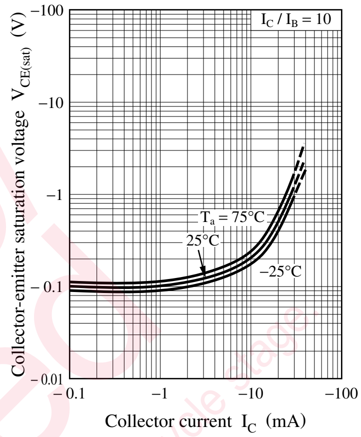
P_C — T_a



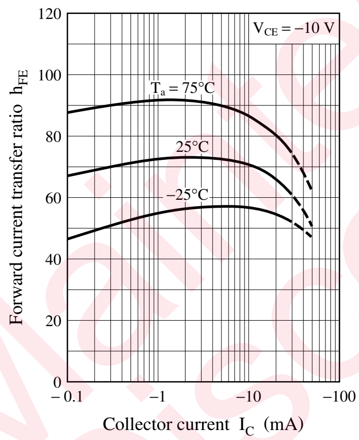
I_C — V_{CE}



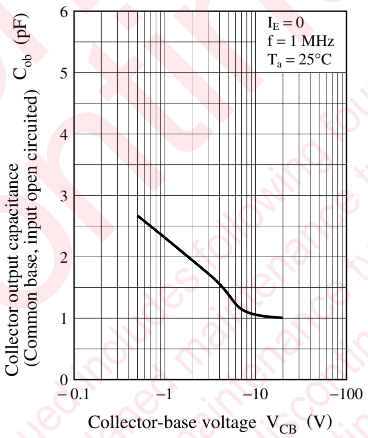
$V_{CE(sat)}$ — I_C



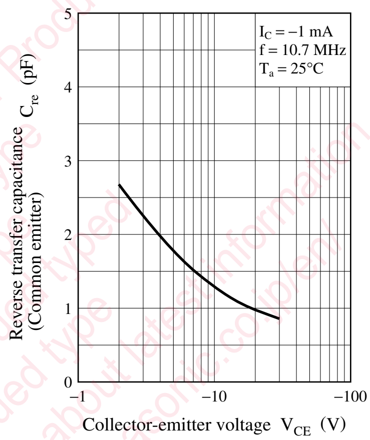
h_{FE} — I_C



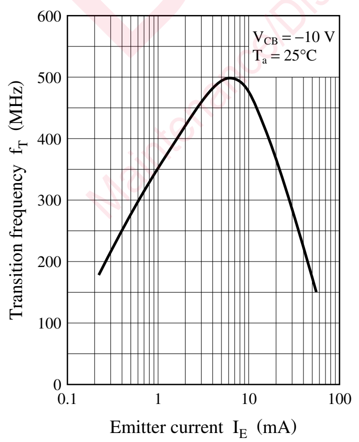
C_{ob} — V_{CB}



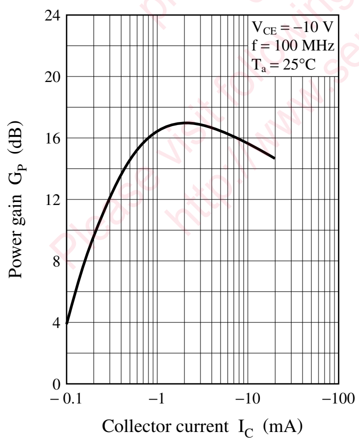
C_{re} — V_{CE}



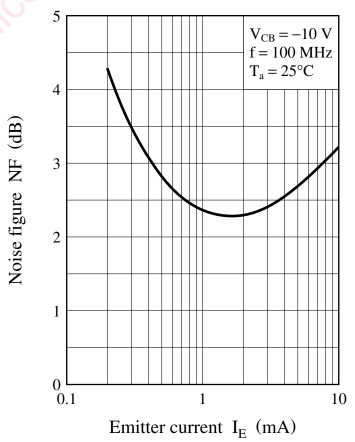
f_T — I_E



G_P — I_C



NF — I_E



Request for your special attention and precautions in using the technical information and semiconductors described in this book

(1) If any of the products or technical information described in this book is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially, those with regard to security export control, must be observed.

(2) The technical information described in this book is intended only to show the main characteristics and application circuit examples of the products, and no license is granted under any intellectual property right or other right owned by our company or any other company. Therefore, no responsibility is assumed by our company as to the infringement upon any such right owned by any other company which may arise as a result of the use of technical information described in this book.

(3) The products described in this book are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
- Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
- Any applications other than the standard applications intended.

(4) The products and product specifications described in this book are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.

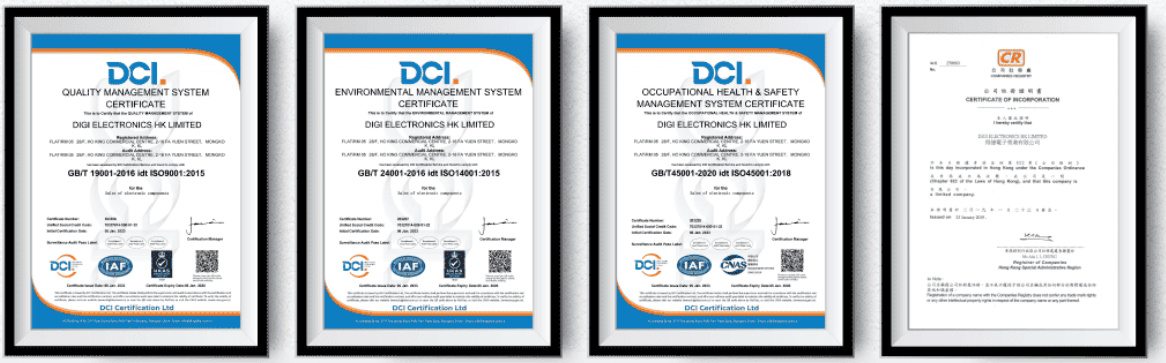
(5) When designing your equipment, comply with the range of absolute maximum rating and the guaranteed operating conditions (operating power supply voltage and operating environment etc.). Especially, please be careful not to exceed the range of absolute maximum rating on the transient state, such as power-on, power-off and mode-switching. Otherwise, we will not be liable for any defect which may arise later in your equipment.
Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.

(6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.

(7) This book may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.