

# LE' O MATERIAL APPROVAL SHEET

CUSTOMER: TC

DATE: 5/1993

BRAND: SANYO

MODEL NO:

ITEM: 2SC2078 D/E

PART NAME:

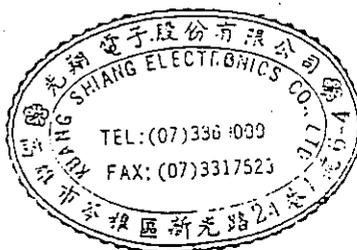
CUSTOMER APPROVAL:

>1-151PA/154PA/1550A/164EA

MODEL NO.	>1-CB 系列
PART NAME	TRANSISTOR
PART NO.	ST2C2078-D/E

APPROVE			
TC ELECTRONICS (TAIWAN) CORP.			
APPROVE	CHECK	CHECK	INCHARGE
	5/19/93		Fiy

SUPPLIER CHECK:



光翔電子股份有限公司

KUANG SHIANG ELECTRONICS CO., LTD

光友國際股份有限公司

公司：高市苓雅區新光路24巷1號六樓之四

TEL: (07) 336 9009 (代表號)

FAX: (07) 331 7523

# 2SC2078



2010A

NPN Epitaxial Planar Silicon Transistor

## 27MHz High Frequency Power Amp Applications

©-462D

### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Value	Unit
Collector to Base Voltage	V <sub>CB0</sub>	80	V
Collector to Emitter Voltage	V <sub>CER</sub>	75	V
Emitter to Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	3	A
Peak Collector Current	i <sub>cp</sub>	5	A
Collector Dissipation	P <sub>C</sub>	1.2	W
Junction Temperature	T <sub>j</sub>	10	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

T<sub>c</sub>=50°C

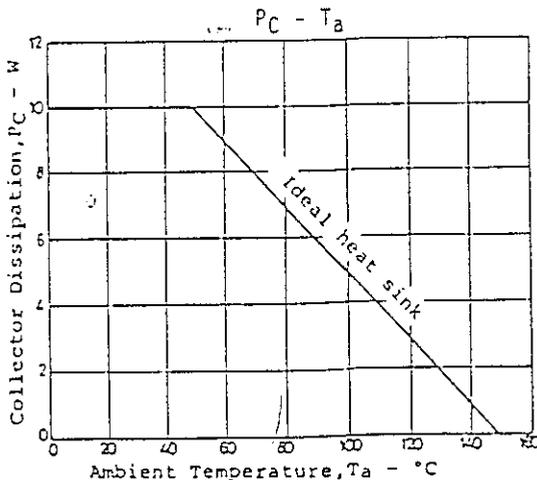
R<sub>BE</sub>=150ohm

### Electrical Characteristics

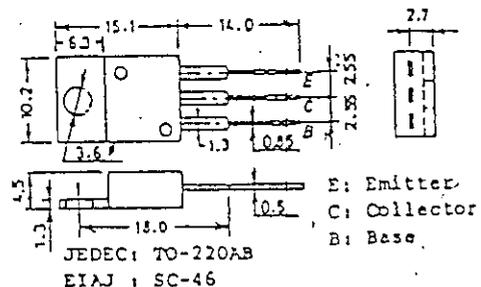
Characteristic	Symbol	Test Conditions	min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =40V, I <sub>E</sub> =0			10	uA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0			10	uA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =0.5A	25*		200*	
Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.1A	100	150		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		45	60	pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =0.1A	0.15	0.6		V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =0.1A	0.9	1.2		V
C-B Saturation Voltage	V(BR)CBO	I <sub>C</sub> =100uA, I <sub>B</sub> =0		80		V
C-E Saturation Voltage	V(BR)CER	I <sub>C</sub> =1mA, R <sub>BE</sub> =150ohm		75		V
E-B Saturation Voltage	V(BR)EBO	I <sub>E</sub> =100uA, I <sub>C</sub> =0		5		V
[At specified test circuit]						
Output Power	P <sub>o</sub>	V <sub>CC</sub> =12V, f=27MHz, P <sub>i</sub> =0.2W	4.0			W
Power Efficiency	η		60			%

\*: The 2SC2078 is classified by 0.5A h<sub>FE</sub> as follows:

25	B	50	40	C	80	60	D	120	100	E	200
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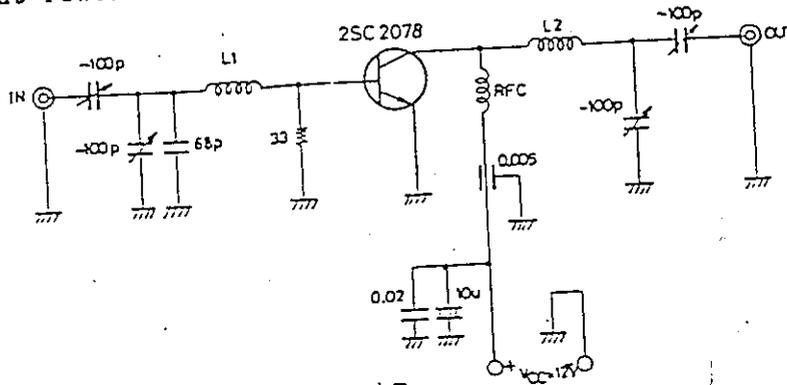
### Case Outline 2010A (unit:mm)



G3

4147KI/3145KI/2274ki No.462-1/3

2SC2078 27MHz Output Power Test Circuit



Coil data L1: 0.3mm tinned wire, 9 $\phi$  4T  
 L2: 0.6mm tinned wire, 9 $\phi$  4T  
 RFC 2.2uH

