

SANYO

No. 462D

**2SC2078**

NPN Epitaxial Planar Type Silicon Transistor
27MHz RF POWER AMP APPLICATIONS

Absolute Maximum Ratings at Ta=25°C

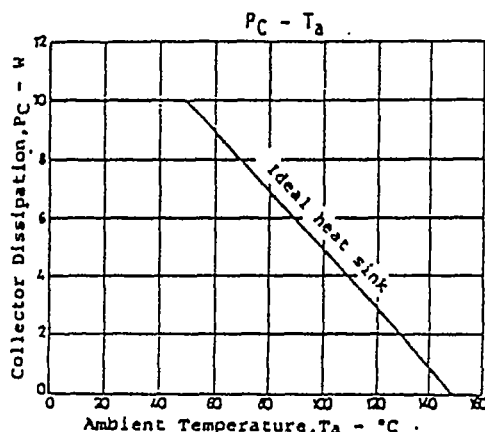
Collector to Base Voltage	V_{CB0}		80	V
Collector to Emitter Voltage	V_{CER}	$R_{BE}=150\Omega$	75	V
Emitter to Base Voltage	V_{EBO}		5	V
Collector Current	I_C		3	A
Peak Collector Current	i_{cp}		5	A
Collector Dissipation	P_C	$T_c=50^\circ\text{C}$	1.2	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics Characteristics at Ta=25°C

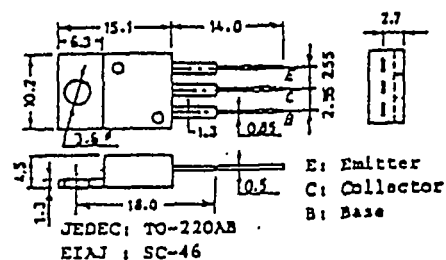
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=40V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0$			10	μA
DC Current Gain	h_{FE}	$V_{CE}=5V, I_C=0.5A$	25*		200*	
Gain Bandwidth Product	f_T	$V_{CE}=10V, I_C=0.1A$	100	150		MHz
Output Capacitance	c_{ob}	$V_{CB}=10V, f=1\text{MHz}$		45	60	pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=1A, I_B=0.1A$		0.15	0.6	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=1A, I_B=0.1A$		0.9	1.2	V
C-B Saturation Voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_B=0$	80			V
C-E Saturation Voltage	$V_{(BR)CER}$	$I_C=1\text{mA}, R_{BE}=150\Omega$	75			V
E-B Saturation Voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
[At specified test circuit]						
Output Power	P_o	$V_{CC}=12V, f=27\text{MHz}, P_i=0.2W$	4.0			W
Power Efficiency	η		60			%

*: The 2SC2078 is classified by 0.5A h_{FE} as follows:

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



E: Emitter
C: Collector
B: Base

JEDEC: TO-220AB
EIAJ: SC-46

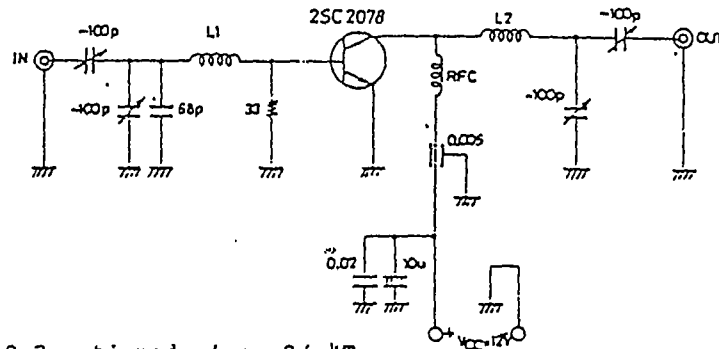
These specifications are subject to change without notice.

SANYO ELECTRIC CO., LTD. SEMICONDUCTOR DIVISION
15-13, 6-CHOME, SOTOKANDA, CHIYODA-KU, TOKYO 101 JAPAN

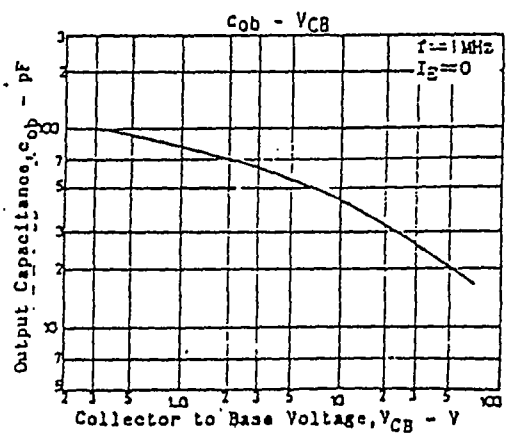
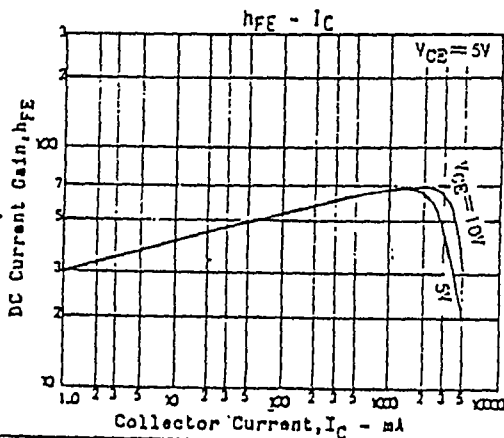
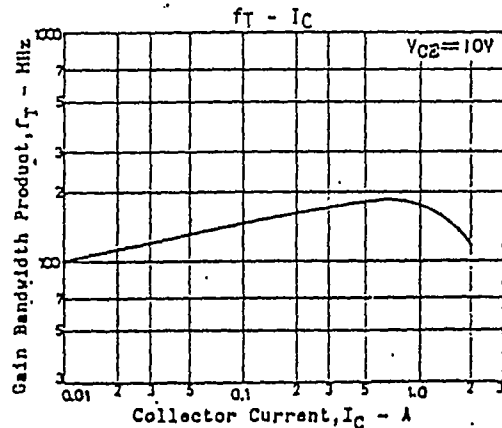
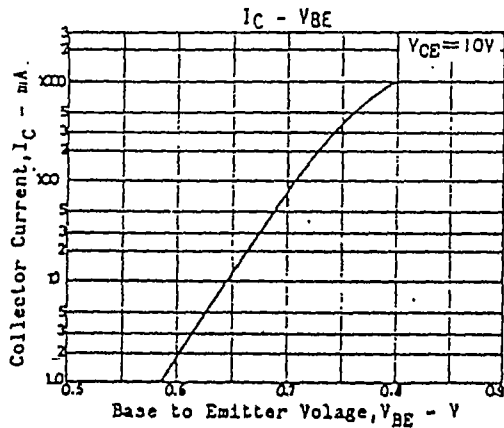
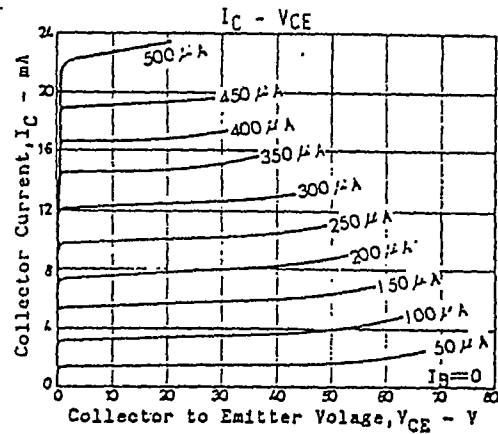
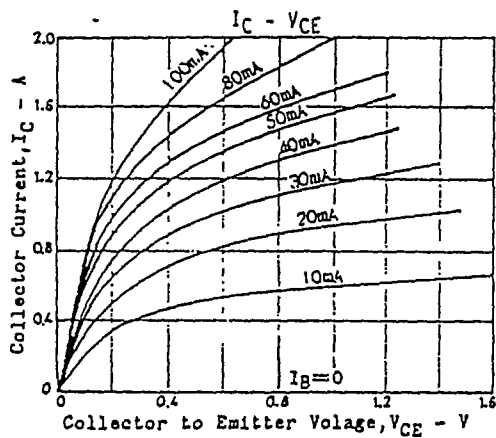
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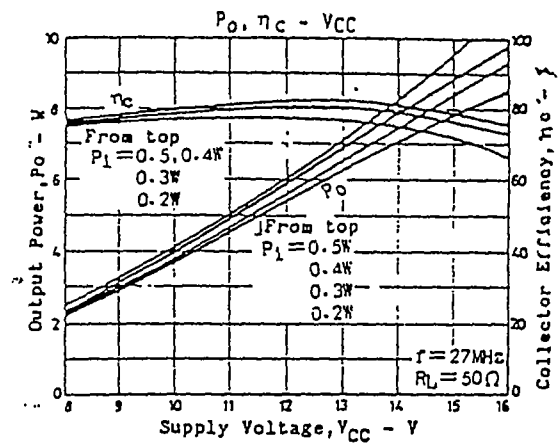
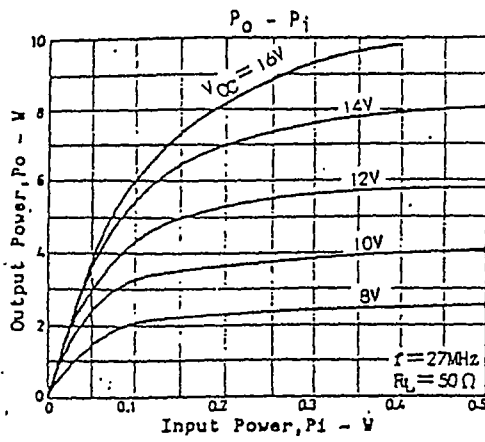
2SC2078 27MHz Output Power Test Circuit



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



2SC2078



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