

SANYO

No.462E

2SC2078

NPN Epitaxial Planar Silicon Transistor

27MHz RF Power Amp Applications

Absolute Maximum Ratings at $T_a=25^{\circ}\text{C}$

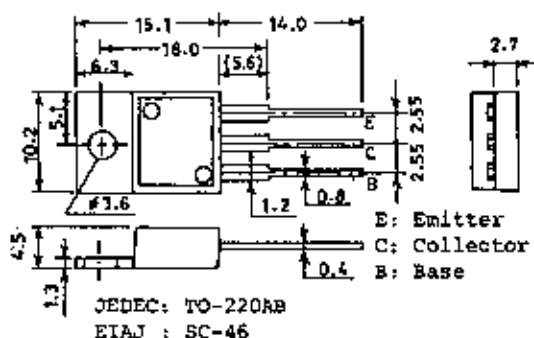
			unit
Collector-to-Base Voltage	V_{CB0}	80	V
Collector-to-Emitter Voltage	V_{CER}	75	V
Emitter-to-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	3	A
Collector Current (Pulse)	I_{CP}	5	A
Collector Dissipation	P_C	1.2	W
		10	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

 $T_c=50^{\circ}\text{C}$ **Electrical Characteristics Characteristics at $T_a=25^{\circ}\text{C}$**

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

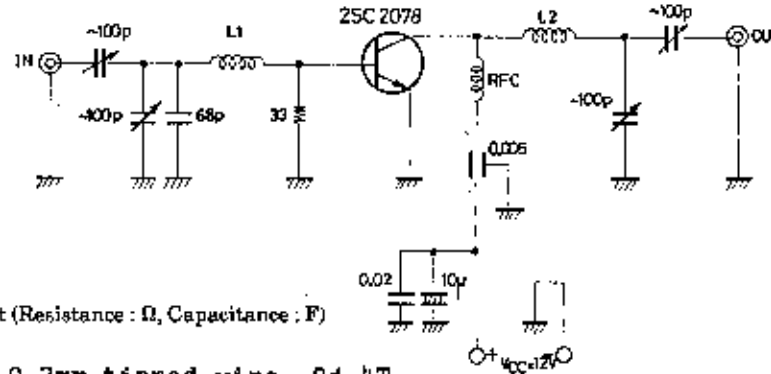
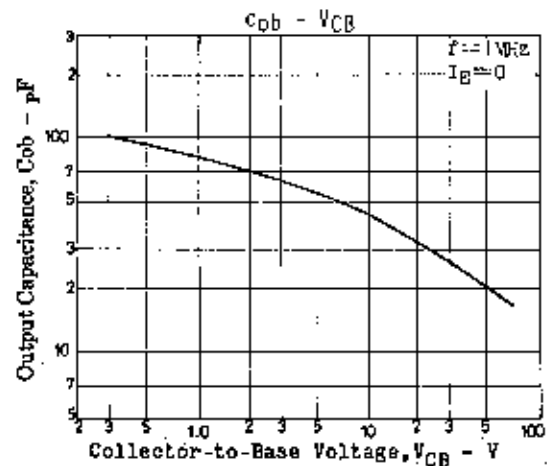
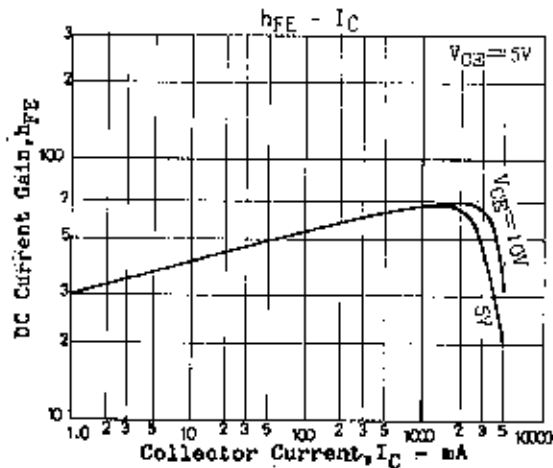
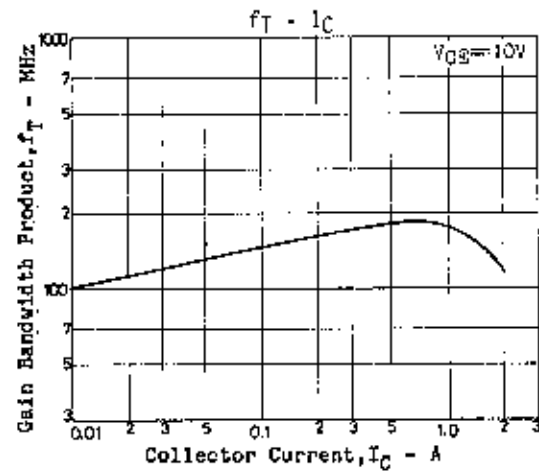
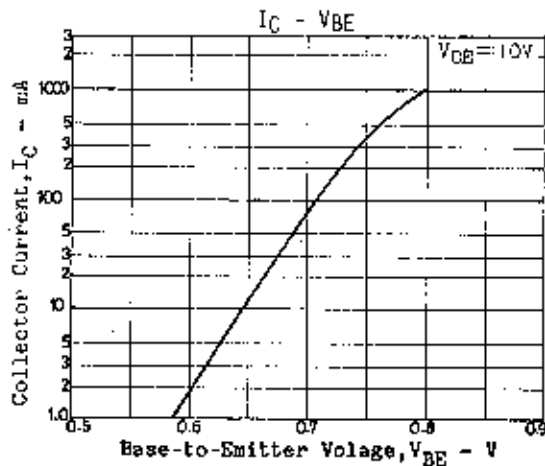
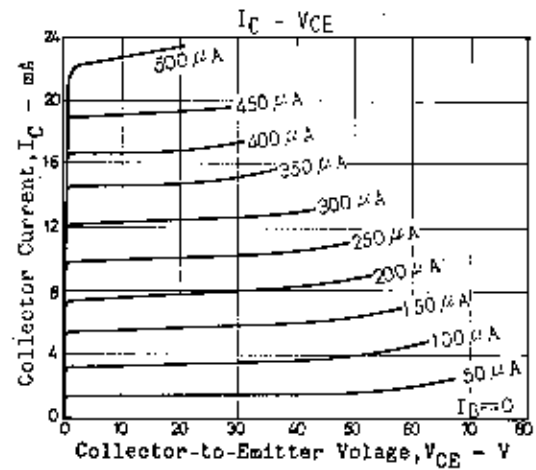
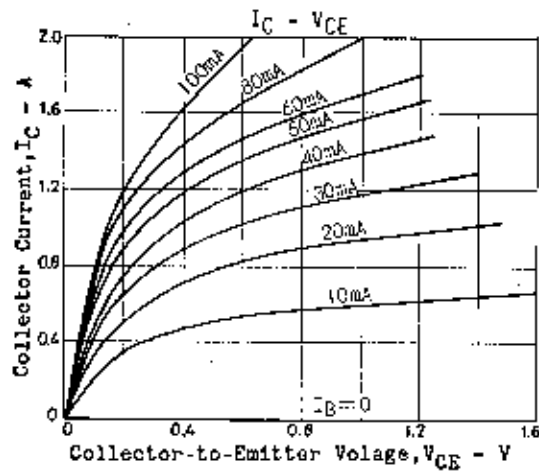
* The 2SC2078 is classified by 0.5A h_{FE} as follows:

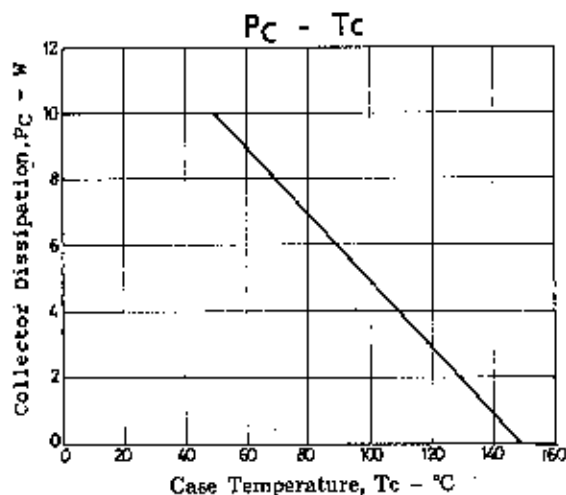
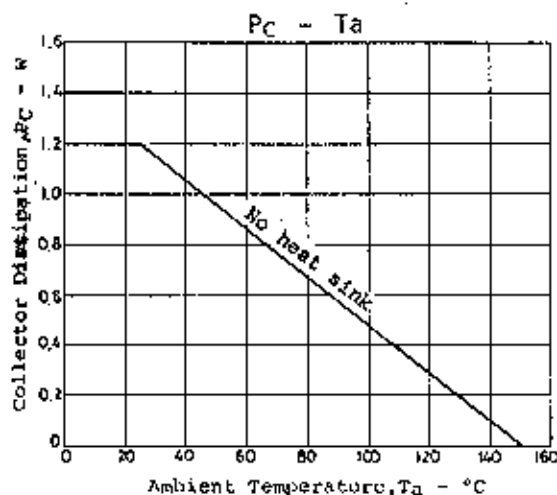
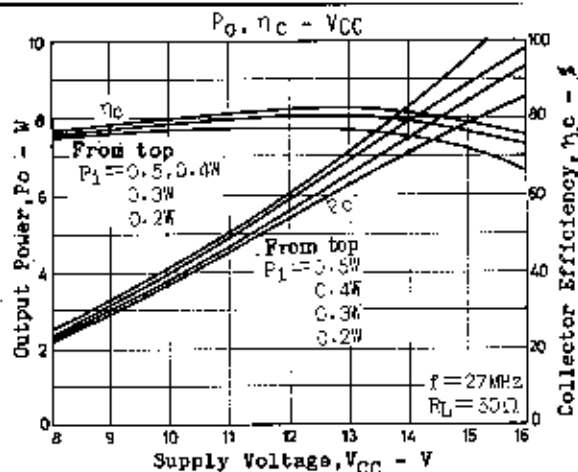
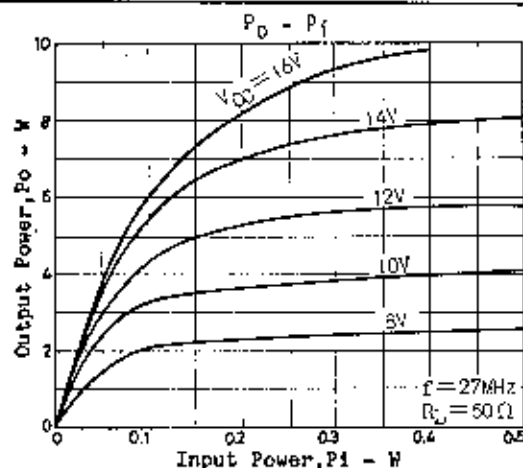
25	B	50	40	C	80	60	D	120	100	E	200
----	---	----	----	---	----	----	---	-----	-----	---	-----

Package Dimensions 2010B
(unit:mm)

SANYO Electric Co., Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

2SC2078 27MHz Output Power Test Circuit

Coil data L1: 0.3mm tinned wire, 9 ϕ 4TL2: 0.6mm tinned wire, 9 ϕ 4TRFC 2.2 μ H



- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation, on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.