

25

50

80

60 D

120

100

No.462E

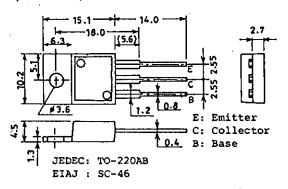
2SC2078

NPN Epitaxial Planar Silicon Transistor

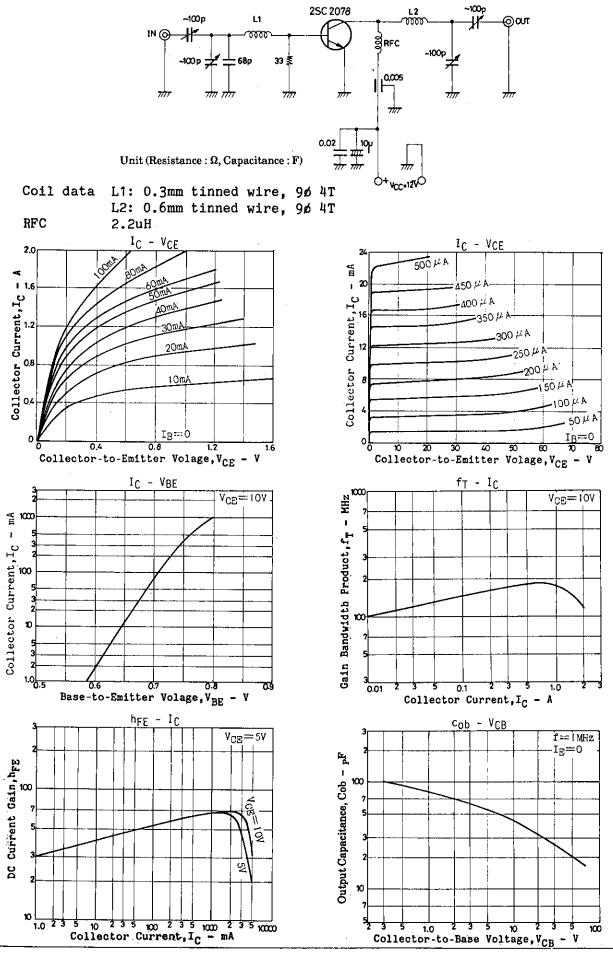
## 27MHz RF Power Amp Applications

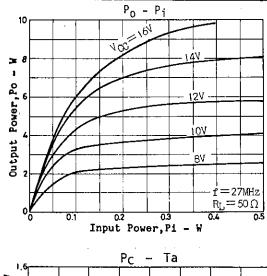
Absolute Maximum Ratings at	Ta=25 <sup>O</sup> C				un	it
Collector-to-Base Voltage	<u>У</u> СВО			8	0	V
Collector-to-Emitter Volta	$age V_{CER}^{CBO}$	$R_{BE}=150\Omega$		7	5	V
Emitter-to-Base Voltage	VEBO	<i>D</i> D				V
Collector Current	IC	•			_	Ā
Collector Current (Pulse)	$I_{CP}$					A
Collector Dissipation	P <sub>C</sub>			1.	-	W
	- 0	Tc=50 <sup>O</sup> C				w W
Junction Temperature	Тj	10-50 0		15	_ ^	
Storage Temperature	-5 Tstg	•	_55 1	to +15	•	-
	1008		-	UU +1)	0	U
Electrical Characteristics	Character	istics at Ta=25°C	min	typ	max	unit
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =40V, I <sub>E</sub> =0		•	10	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, i <sub>C</sub> =0			10	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =5V,I <sub>C</sub> =0.5A	25#	ŧ	200*	
Gain Bandwidth Product		V <sub>CE</sub> =10V, I <sub>C</sub> =0.1A	100	150		MHz
Output Capacitance	Cob	V <sub>CB</sub> =10V, f=1MHz		45	60	pF
C-E Saturation Voltage	Von	$I_{C}=1A$ , $I_{B}=0.1A$		0.15	0.6	V
B-E Saturation Voltage	V_=(sat)	T14 T0 14		0.9		v
C-B Saturation Voltage	BE(sat)	I <sub>C</sub> =1A, I <sub>B</sub> =0.1A I <sub>C</sub> =100µA, I <sub>B</sub> =0	80	0.9	1+2	V
C-E Saturation Voltage	(BR)CBO	T -1m4 P -1500				
E-B Saturation Voltage	(BR)CER	$I_{C}=1 \text{ mA}, R_{BE}=150 \Omega$ $I_{E}=100 \mu \text{A}, I_{C}=0$	75			V
[At specified test circuit	LY(BR)EBO	E=100μΑ,1C=0	5			V
			1. 0			
Output Power		$V_{ m CC}$ =12V,f=27MHz,Pi=0.2W				W
Power Efficiency	η		60			%
* The 2SC2078 is classified	d by 0.5A	h as follows:				

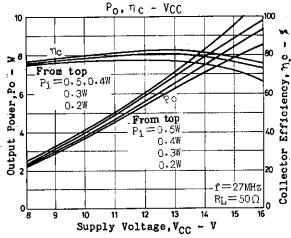
## Package Dimensions 2010B (unit:mm)

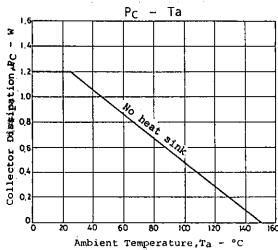


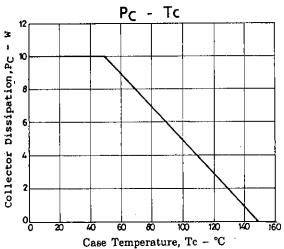
## 2SC2078 27MHz Output Power Test Circuit











- 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.