Ordering number: EN 462E

SANYO

No.462E

2SC2078

NPN Epitaxial Planar Silicon Transistor

27MHz RF Power Amp Applications

Absolute Maximum Ratings at Ta=25°C

				unit
Collector-to-Base Voltage	V_{CBO}		80	V
Collector-to-Emitter Voltage	V_{CER}	R_{BE}=150Ω	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
		Tc=50°C	10	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

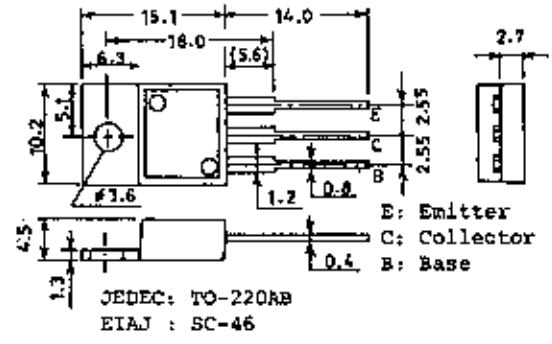
Electrical Characteristics Characteristics at Ta=25°C

			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	Cob	V_{CB}=10V, f=1MHz		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=100μA, I_B=0	80			V
C-E Saturation Voltage	$V_{(BR)CER}$	I_C=1mA, R_{BE}=150Ω	75			V
E-B Saturation Voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
[At specified test circuit]						
Output Power	Po	V_{CC}=12V, f=27MHz, Pi=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

Package Dimensions 2010B
(unit: mm)



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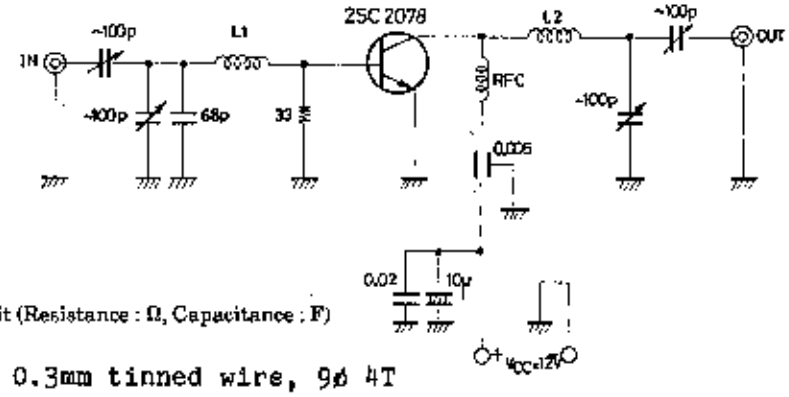
2SC2078 27MHz Output Power Test Circuit



Unit (Resistance : Ω, Capacitance : F)

Coil data L1: 0.3mm tinned wire, 9ø 4T
L2: 0.6mm tinned wire, 9ø 4T

RFC 2.2uH