

SANYO	No.462E	2SC2078
	NPN Epitaxial Planar Silicon Transistor	
27MHz RF Power Amp Applications		

Absolute Maximum Ratings at Ta=25°C

Collector-to-Base Voltage	V_{CBO}		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
Collector Current (Pulse)	I_{CP}		5	A
Collector Dissipation	P_C		1.2	W
		$T_c=50^\circ C$	10	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

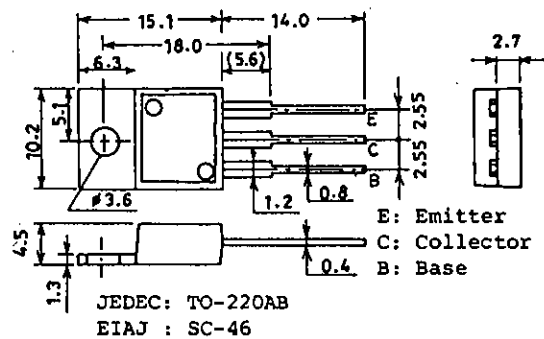
Electrical Characteristics Characteristics at Ta=25°C

			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	C_{ob}	$V_{CB}=10V, f=1MHz$		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	$V_{(BR)CBO}$	$I_C=100\mu A, I_B=0$	80			V
C-E Saturation Voltage	$V_{(BR)CER}$	$I_C=1mA, R_{BE}=150\Omega$	75			V
E-B Saturation Voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5			V
[At specified test circuit]						
Output Power	P_o	$V_{CC}=12V, f=27MHz, P_i=0.2W$	4.0			W
Power Efficiency	η		60			%

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

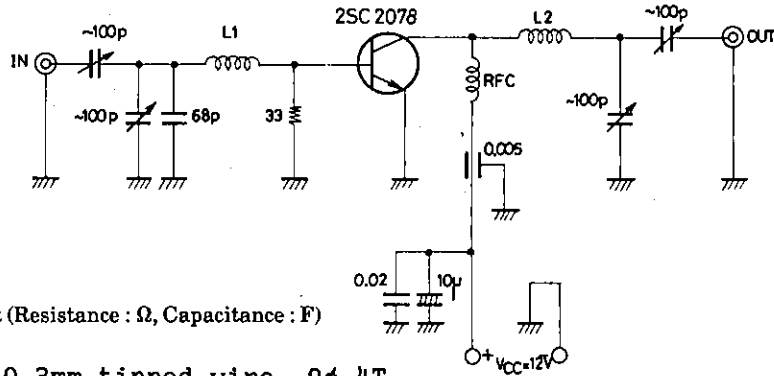
25	B	50	40	C	80	60	D	120	100	E	200
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Package Dimensions 2010B
(unit:mm)



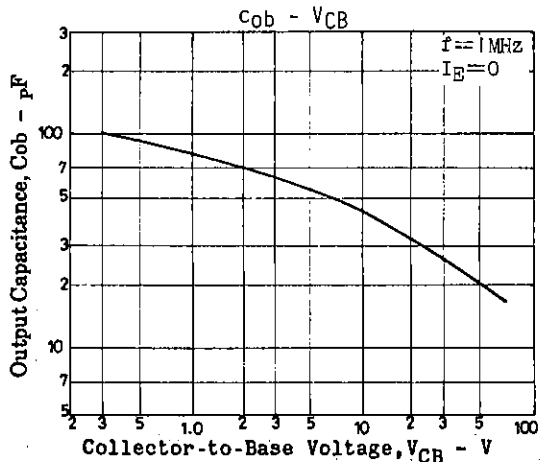
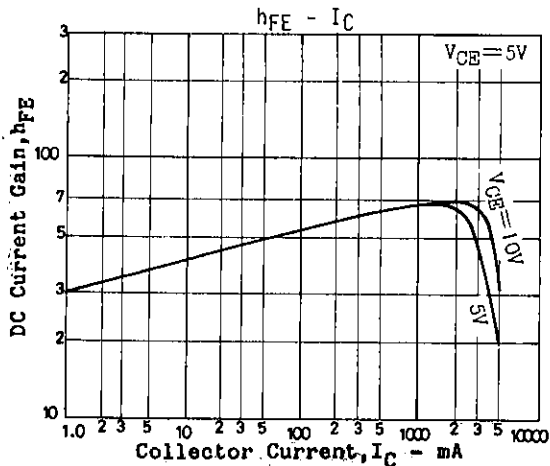
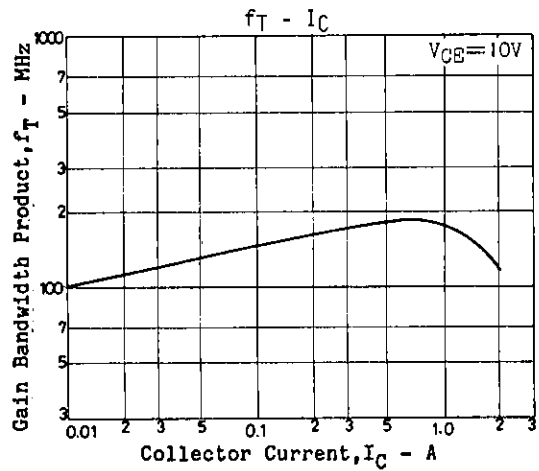
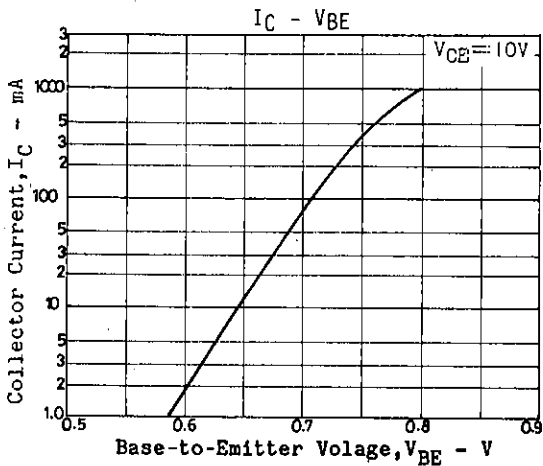
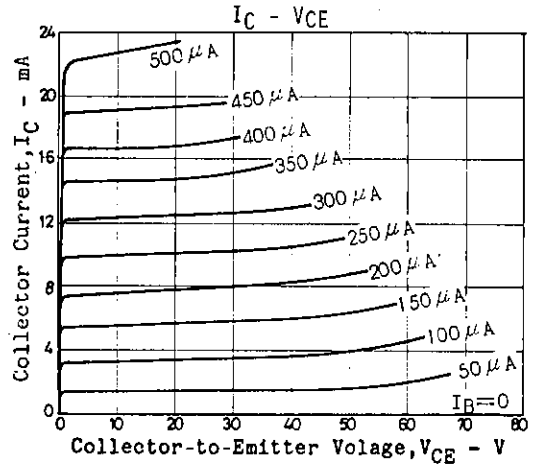
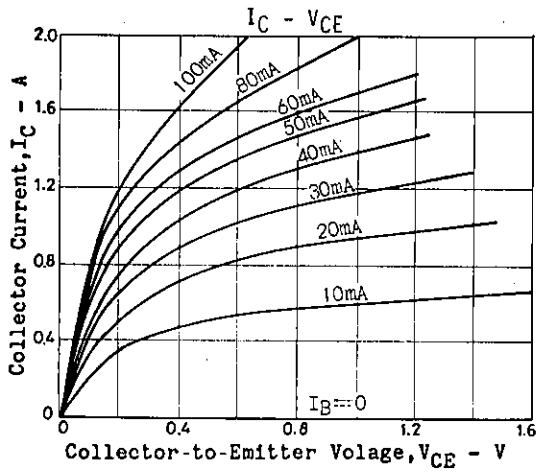
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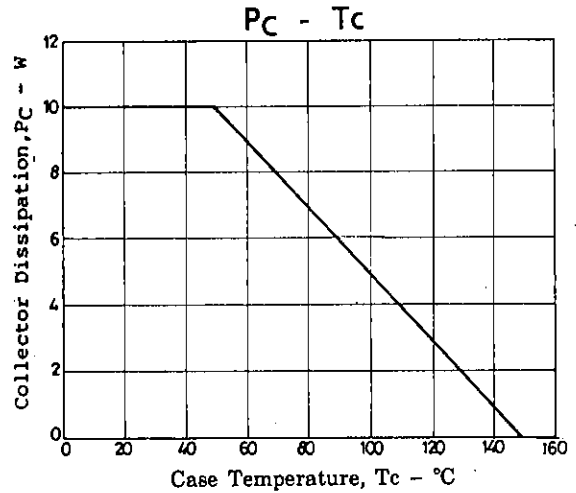
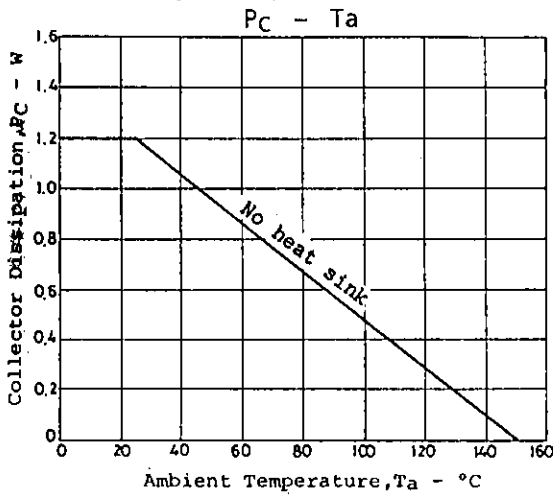
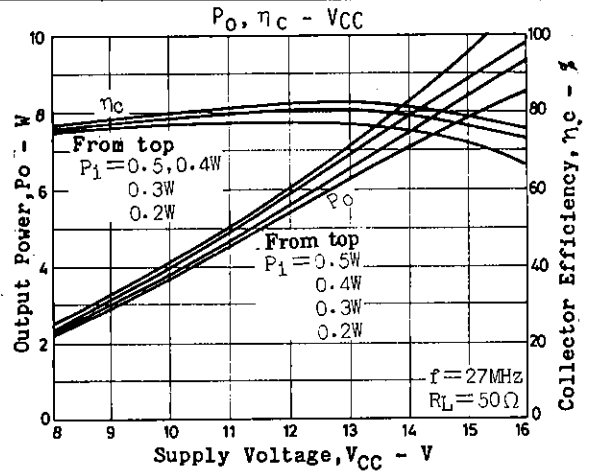
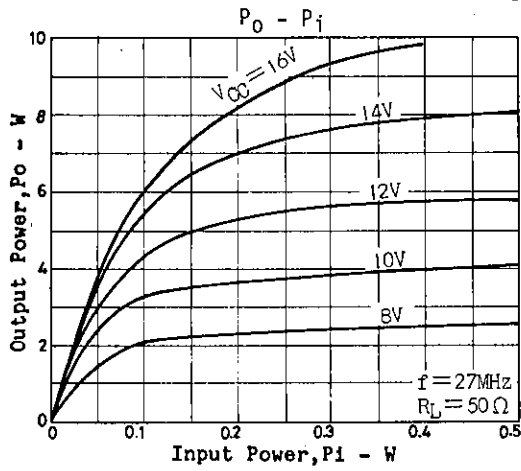
2SC2078 27MHz Output Power Test Circuit



Unit (Resistance : Ω , Capacitance : F)

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





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