

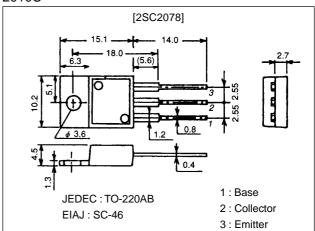


27MHz RF Power Amplifier Applications

Package Dimensions

unit:mm

2010C



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		80	V
Collector-to-Emitter Voltage	VCER	R _{BE} =150Ω	75	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	IC		3	Α
Collector Current (Pulse)	ICP		5	Α
Collector Dissipation	PC		1.2	W
		Tc=50°C	10	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

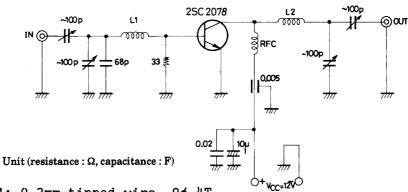
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
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	hFE	V _{CE} =5V, I _C =0.5A	25*		200*	
Gain-Bandwidth Product	fT	V _{CE} =10V, I _C =0.1A	100	150		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		45	60	pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =1A, I _B =0.1A		0.15	0.6	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =1A, I _B =0.1A		0.9	1.2	V

- *: The 2SC2078 are classified by 0.5A h_{FE} as follows: 25 B 50 40 C 80 60 D 120 100 E 20
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Parameter	Symbol	Conditions	Ratings			Unit	
			min	typ	max	Office	
Collector-to-Base Saturation Voltage	V(BR)CBO	$I_{C}=100\mu\text{A},\ I_{B}=0$	80			V	
Collector-to-Emitter Saturation Voltage	V(BR)CER	I_{C} =1mA, R_{BE} =150 Ω	75			V	
Emitter-to-Base 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			%	

27MHz Output Power Test Circuit



Coil data L1: 0.3mm tinned wire, 96 4T

L2: 0.6mm tinned wire, 9ø 4T

RFC 2.2µH

IC - VCE

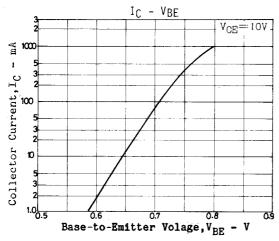
V 1.6

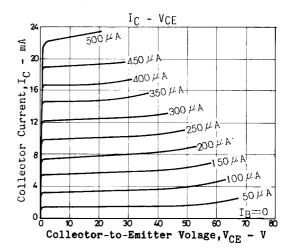
OMA

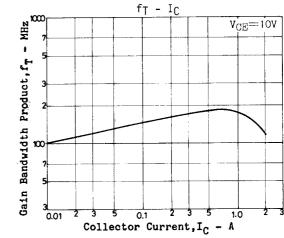
AOMA

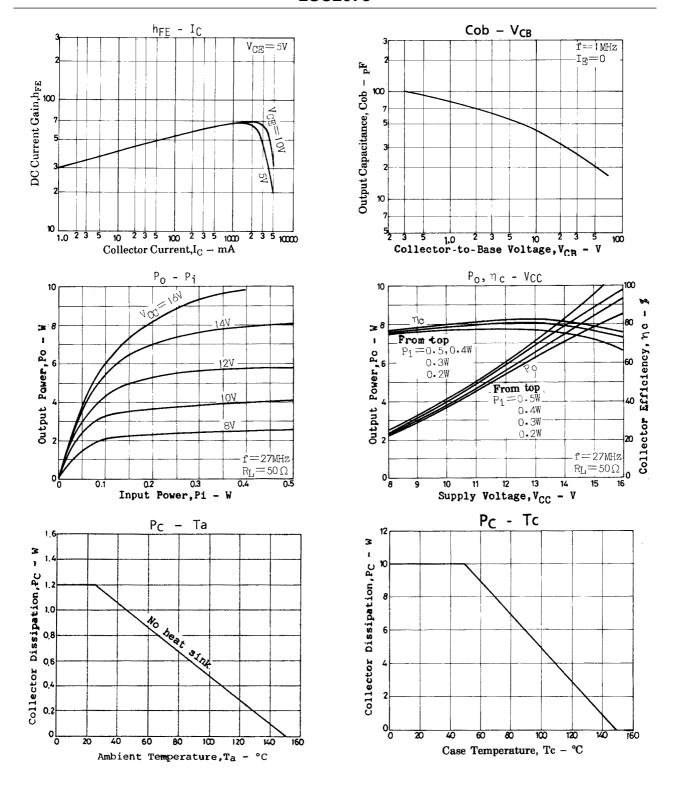
2.0mA

2.0mB









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