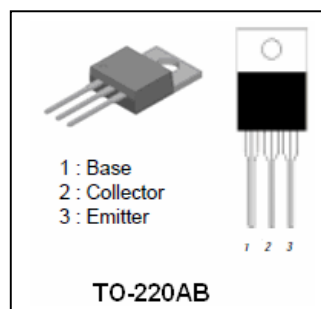


## NPN Epitaxial Planar Silicon Transistor

### Application:

High frequency power amplifier  
 High Gain:  $G_p \geq 12\text{dB}$   
 @ $V_{cc}=12\text{V}$ ,  $f=27\text{MHz}$   $P_o=4\text{W}$

Package: TO-220AB



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

Item	Symbol	Ratings	Unit
Collector-to-Base Voltage	VCBO	80	V
Collector-to-Emitter Voltage	VCEO	35	V
Emitter-to-Base Voltage	VEBO	5	V
Collector Current	IC	3	A
Collector Current (Pulse)	ICP	5	A
	PC	1.2	W
		10	W
Junction Temperature	Tj	150	$^\circ\text{C}$
Storage Temperature	Tstg	-55---125	$^\circ\text{C}$

### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Item	Symbol	Test conditions	Ratings			Unit
			Min	Typ	Max	
Collector to base voltage	V(BR)CBO	IC=100 $\mu\text{A}$ , IB=0	80			V
Collector to emitter voltage	V(BR)CEO	IC=1mA, IB=0	35			V
Collector cutoff current	ICBO	VCB=40V, IE=0			10	$\mu\text{A}$
Emitter cutoff current	IEBO	VEB=4V, IC=0			10	$\mu\text{A}$
Collector to emitter saturation voltage	VCE(sat)	IC=1A, IB=0.1A		0.16	0.6	V
DC current transfer ratio	hFE	VCE=5V, IC=0.5A	40		200	*
Gain bandwidth product	fT	VCE=10V, IC=0.1A		150		MHz
Output capacitance	Cob	VCB=10V, f=1MHz		45	60	pF
Output power	Po	VCC=12V, f=27MHz,	4.0			W
Power efficiency		Pi=0.2W	60			%

The 2SC2078 are classified by hFE as follows :

C: 40 to 80	D: 80 to120	E: 100 to 200
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