

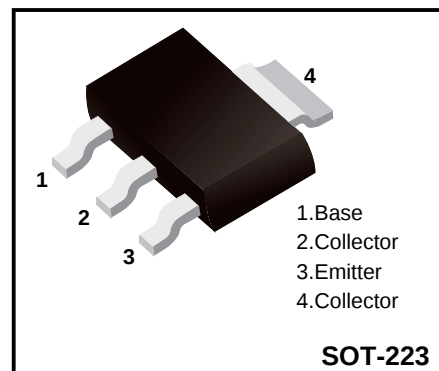
NPN Plastic-Encapsulate Transistors

Applications

- ◆Telephone Switching Circuit
- ◆Amplifier

Features

- ◆High Collector-Emitter Voltage : $BV_{CEO}=160V$
- ◆High current gain



Absolute Maximum Ratings ($T_a=25^{\circ}C$)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	180	V
Collector-Emitter Voltage	BV_{CEO}	160	V
Emitter-Base Voltage	BV_{EBO}	6	V
Collector Current	I_C	600	mA
Collector Power Dissipation	P_C	2	W
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature	T_{stg}	$-55 \sim +150$	$^{\circ}C$

Electrical Characteristics ($T_a=25^{\circ}C$)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	180			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 1mA, I_B = 0$	160			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 100\mu A, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 120V, I_E = 0$			50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			50	nA
DC current gain	h_{FE}	$V_{CE} = 5V, I_C = 1mA$	80			
		$V_{CE} = 5V, I_C = 10mA$	80		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 5mA$			0.2	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50mA, I_B = 5mA$			1.0	V
Transition frequency	f_T	$V_{CE} = 10V, I_B = 10mA$	100			MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$			6	pF

Note: Pulse test: $PW < 300\mu s$, Duty Cycle $< 2\%$

h_{FE} Classification

Classification	YFW5551-A	YFW5551-B	YFW5551-C
Range	80~170	150~240	200~400

Typical Characteristics

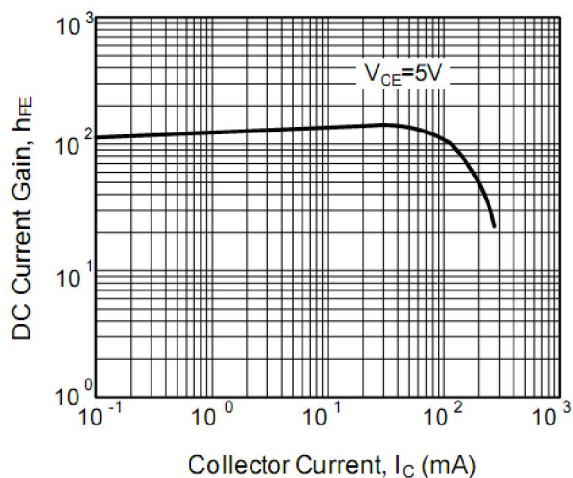


Figure 1. TDC Current Gain

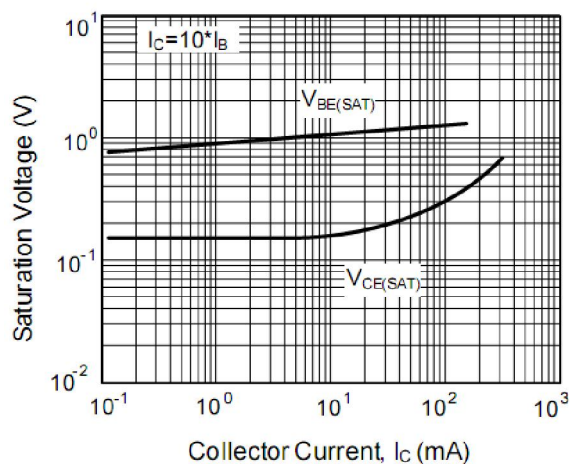


Figure 2. Saturation Voltage

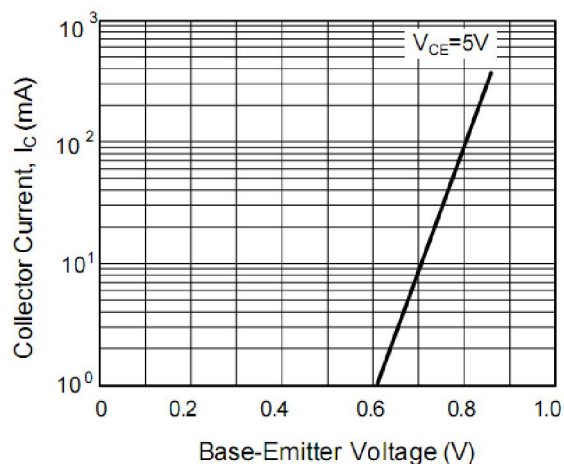


Figure 3. Base-Emitter on Voltage

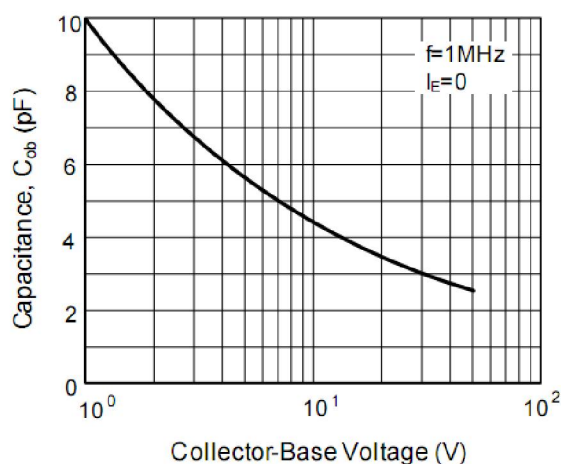


Figure 4. Collector Output Capacitance

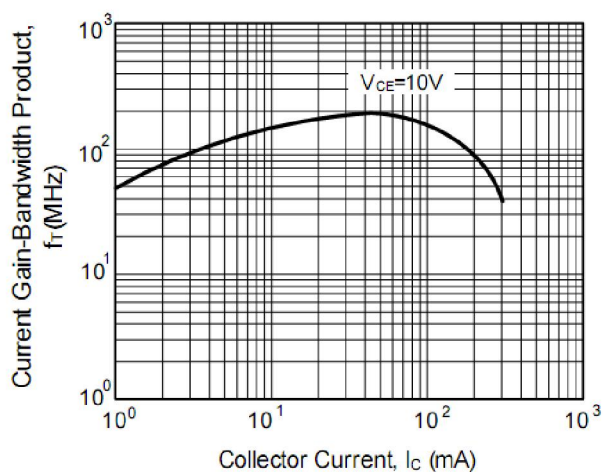


Figure 5. Current Gain-Bandwidth Product

Ordering information

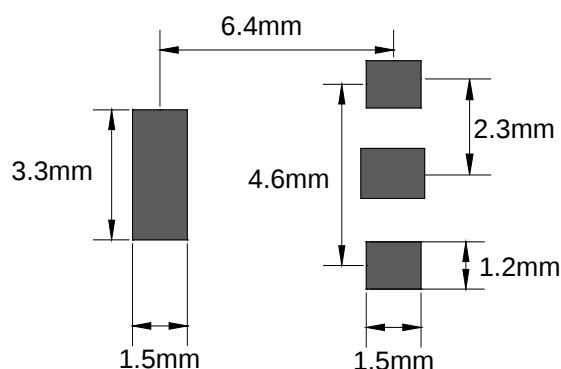
Package	Packing Description	Base Quantity	Packing Quantity
SOT-223	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton
	Tape/Reel, 13" reel	2500pcs/Reel	5000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-223

Dlm	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.80	0.059	0.071
A1	0.00	0.10	0.000	0.004
A2	1.50	1.70	0.059	0.067
b	0.65	0.75	0.026	0.030
c	0.20	0.30	0.008	0.012
D	6.40	6.60	0.252	0.260
D1	2.90	3.10	0.114	0.122
E	3.30	3.70	0.130	0.146
E1	6.85	7.15	0.270	0.281
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	1.65	1.85	0.065	0.073
L1	0.90	1.15	0.035	0.045

The recommended mounting pad size



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