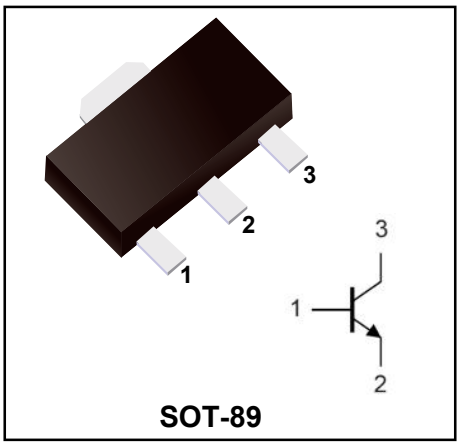
NPN Plastic-Encapsulate Transistors



SOT-89

Marking Code	
YFW13001SI	YFW 13001

FEATURES

- Case: SOT-89
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260℃/10seconds at terminals

Absolute Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbols	Value	Units
Collector-Base Voltage	V_{CBO}	500	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter -Base Voltage	V_{EBO}	9	V
Collector Current-Continuous	I_C	0.3	A
Collector Power Dissipation	P_C	750	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55-+150	℃

Electrical Characteristics(Ta=25℃ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-base breakdown voltage	I_C=100uA, I_E=0	$V_{(BR)CBO}$	500			V
Collector-emitter breakdown voltage	I_C=1mA, I_B=0*	$V_{(BR)CEO}$	400			V
Emitter-base breakdown voltage	I_E=100uA, I_C=0	$V_{(BR)EBO}$	9			V
Collector cut-off current	V_{CB}=500V, I_E=0	I_{CBO}			100	uA
Collector cut-off current	V_{CE}=400V, I_E=0	I_{CEO}			200	uA
Emitter cut-off current	V_{EB}=9V, I_C=0	I_{EBO}			100	uA
DC current gain	V_{CE}=20V, I_C=20mA	$h_{FE(1)}$	10		40	
	V_{CE}=10V, I_C=0.25mA*	$h_{FE(2)}$	5			
Collector-emitter saturation voltage	I_C=50mA, I_B=10mA*	$V_{CE(sat)}$			0.5	V
Base -emitter saturation voltage	I_C=50mA, I_B=10mA*	$V_{BE(sat)}$			1.2	V
Transition frequency	V_{CE}=20V, I_C=20mA, f=1MHz	f_T	8			MHz
Fall time	at UI9600, I_C=100 mA	t_f			3	us
Storage time		t_s			1	us

*** Measured under pulsed conditions, Pulse width=300us, Duty cycle≤2%**

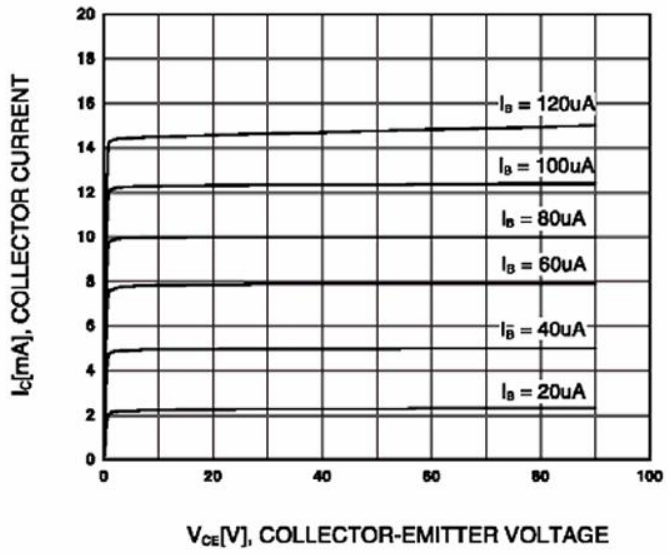


Figure 1. Static Characteristic

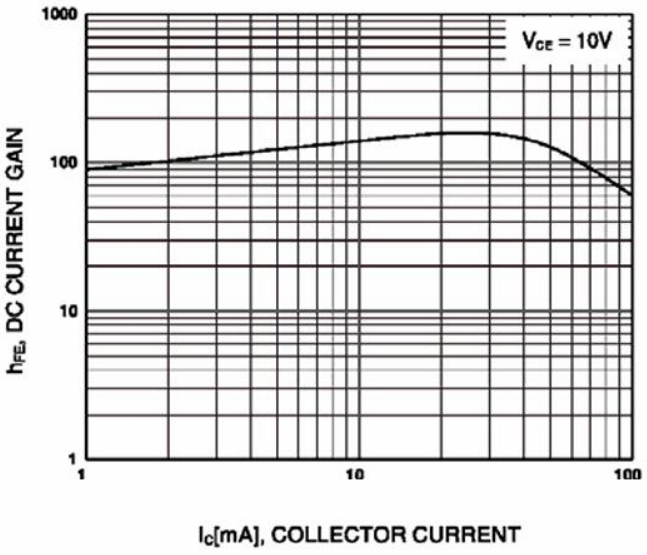


Figure 2. DC current Gain

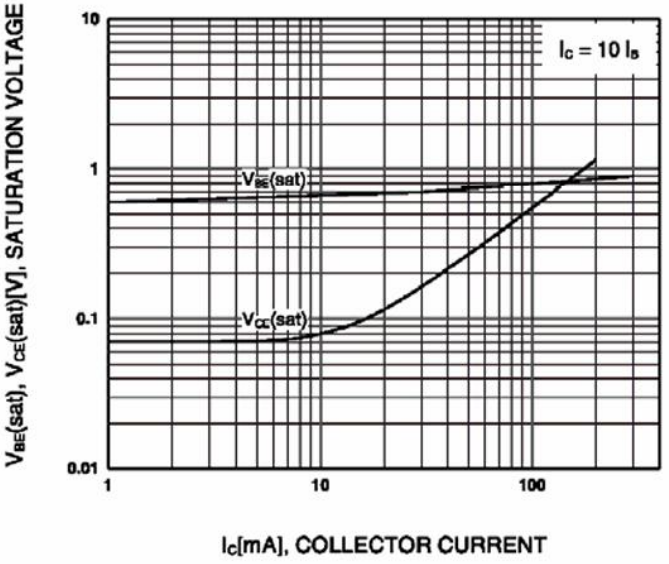


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

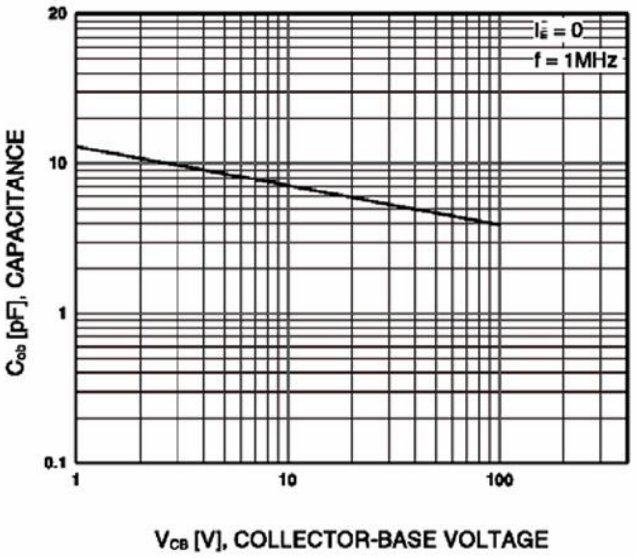


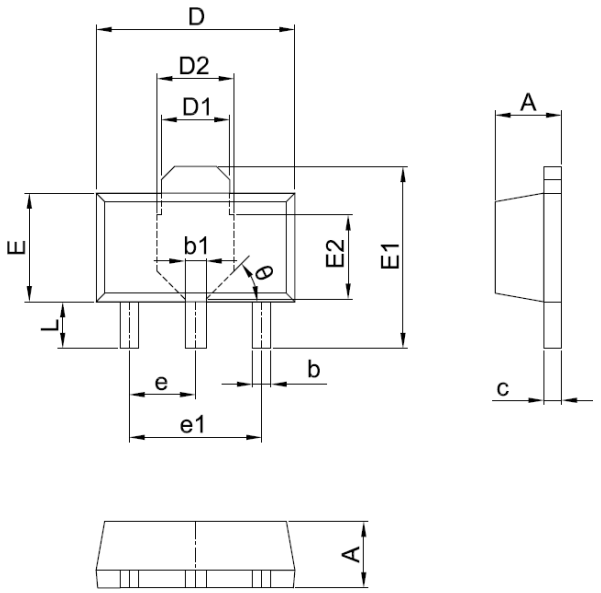
Figure 4. Collector Output Capacitance

Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel,7"reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

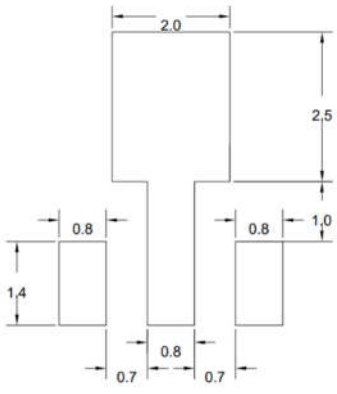
Package Dimensions

SOT-89



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

The recommended mounting pad size



UNIT:MM

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