

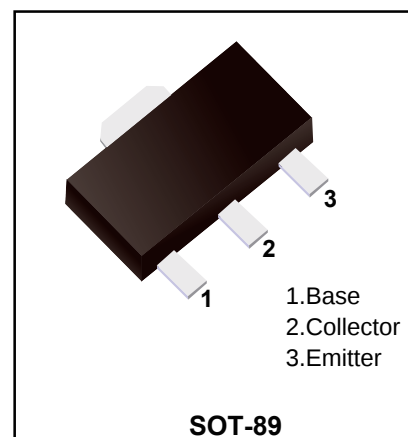
NPN Transistor

FEATURES

- For switching and amplifier applications.
- Low collector saturation voltage.

Marking Code

YFW13003SI	13003
------------	-------



Absolute Maximum Ratings (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	800	V
Collector Emitter Voltage	V_{CEO}	430	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current	I_C	1.5	A
Pulsed Collector Current	I_{CP}	3	A
Power Dissipation	P_D	800	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C

Electrical Characteristics Ta= 25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 500\text{ mA}$ at $V_{CE} = 2\text{ V}$, $I_C = 1\text{ A}$ at $V_{CE} = 5\text{ V}$, $I_C = 200\text{ mA}$	H_{FE}	20 8 15	40 40 40	-
Collector Base Cutoff Current at $V_{CB} = 700\text{ V}$	I_{CBO}	-	10	μA
Emitter Base Cutoff Current at $V_{EB} = 9\text{ V}$	I_{EBO}	-	10	μA
Collector Base Breakdown Voltage at $I_C = 500\text{ }\mu\text{A}$	$V_{(BR)CBO}$	800	-	V
Collector Emitter Breakdown Voltage at $I_C = 5\text{ mA}$	$V_{(BR)CEO}$	430	-	V
Emitter Base Breakdown Voltage at $I_E = 500\text{ }\mu\text{A}$	$V_{(BR)EBO}$	9	-	V
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 100\text{ mA}$ at $I_C = 1\text{ A}$, $I_B = 250\text{ mA}$	$V_{CE(sat)}$	-	0.5 1	V
Base Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 100\text{ mA}$ at $I_C = 1\text{ A}$, $I_B = 250\text{ mA}$	$V_{BE(sat)}$	-	1 1.2	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$	F_T	4	-	MHz

Ratings and Characteristic Curves

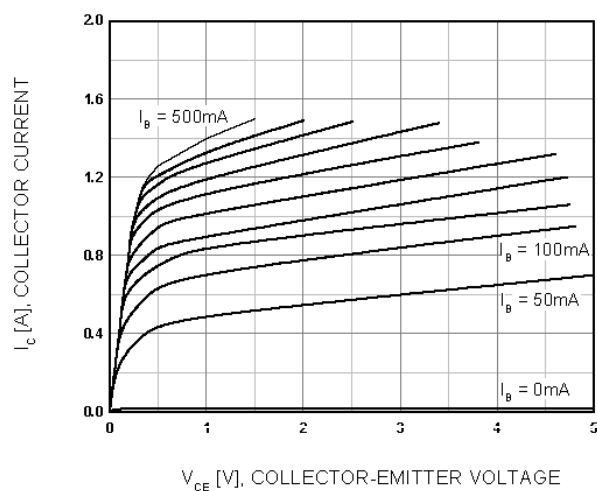


Figure 1. Static Characteristic

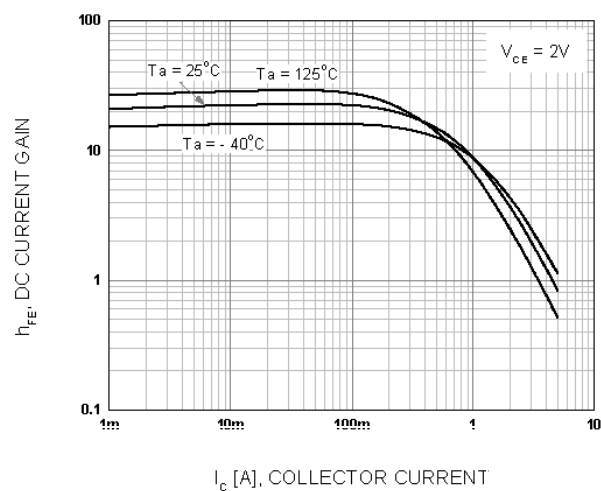


Figure 2. DC current Gain

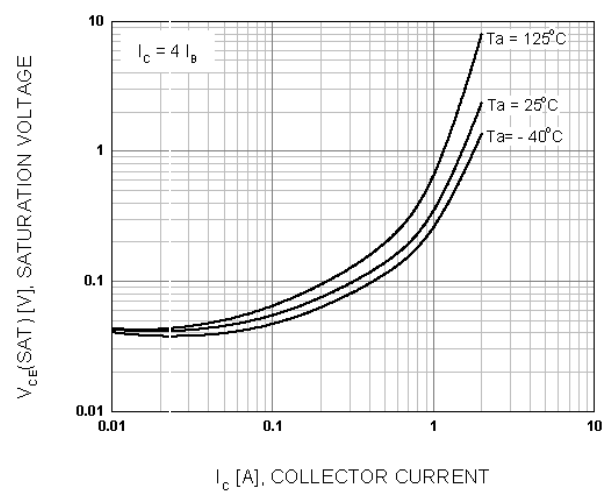


Figure 3. Collector-Emitter Saturation Voltage

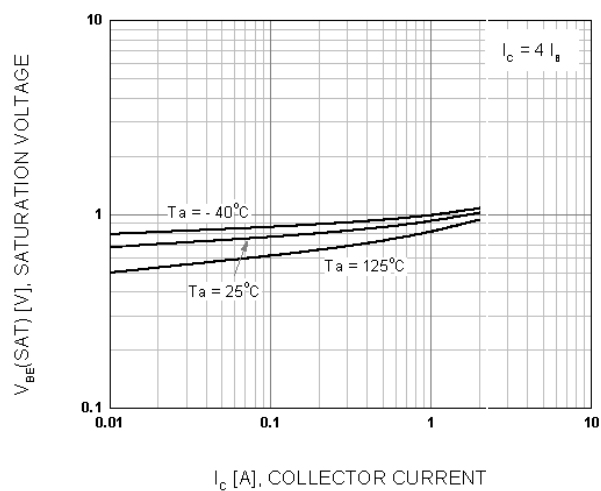


Figure 4. Base-Emitter Saturation Voltage

Ordering information

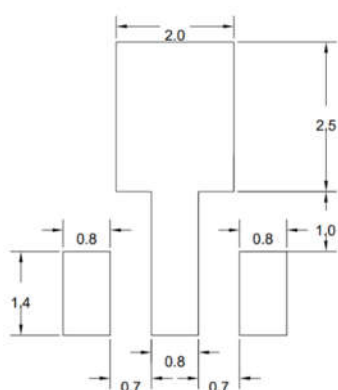
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

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

Disclaimer

The information presented in this document is for reference only. Guangdong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.