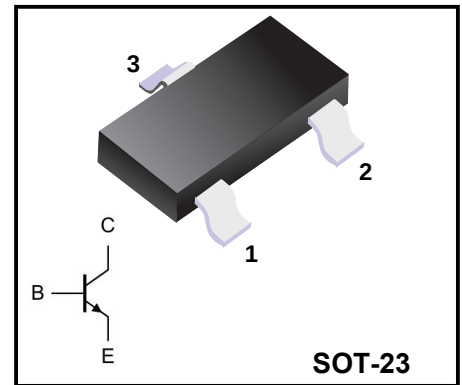


NPN Plastic-Encapsulate Transistors

FEATURES

- ◆Case: SOT-23
- ◆Epoxy meets UL-94 V-0 flammability rating and halogen free
- ◆Moisture Sensitivity Level 3
- ◆High temperature soldering guaranteed 260°C/10seconds at terminals



Marking Code

PBSS4140T

ZT

Absolute Ratings (Ta=25°C unless otherwise noted)

Parameters	Symbol	Value	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	1.0	A
Peak Collector Current	I_{CM}	2.0	A
Peak Base Current	I_{BM}	1.0	A
Collector Power Dissipation	P_C	300 (Note1) 450 (Note2)	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	417 278	°C/W

Note:

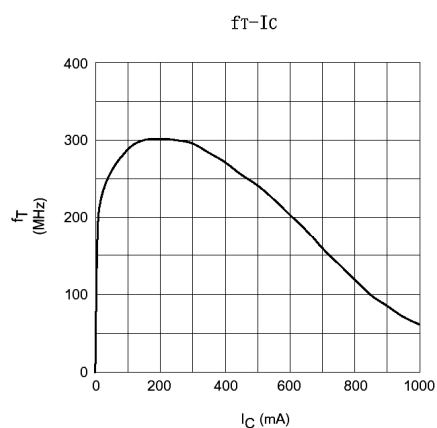
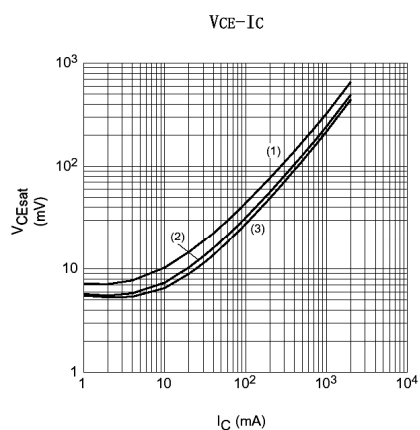
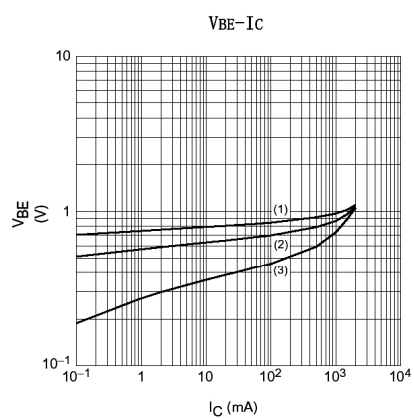
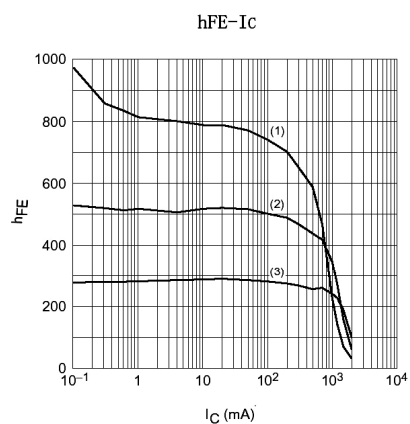
1.Device mounted on an FR4 PCB,single-sided,35 um copper,tin-plated and standard footprint.

2.Devicemountedon an FR4PCB,single-sided,35umcopper,tin-plated,mountingpad forcollector1 cm².

Electrical Characteristics (Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	$V_{(BR)CBO}$	40			V
Collector-emitter breakdown voltage	$I_C=2mA, I_B=0$	$V_{(BR)CEO}$	40			V
Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	$V_{(BR)EBO}$	5			V
Collector-Base cut-off current	$V_{CB}=40V, I_E=0$	I_{CBO}			100	nA
Collector-Emitter cut-off current	$V_{CE}=30V, I_E=0$	I_{CEO}			100	nA
Emitter-Base cut-off current	$V_{EB}=5V, I_C=0$	I_{EBO}			100	nA
Collector-Emitter cut-off current	$V_{CE}=30V$	I_{CES}			100	nA
DC current gain	$V_{CE}=5V, I_C=1mA$	$h_{FE(1)}$	300			
	$V_{CE}=5V, I_C=500mA$	$h_{FE(2)}$	300		900	
	$V_{CE}=5V, I_C=1A$	$h_{FE(3)}$	200			
Collector-emitter saturation voltage	$I_C=100mA, I_B=1mA$	$V_{CE(sat)}$			200	mV
	$I_C=500mA, I_B=50mA$				250	mV
	$I_C=1A, I_B=100mA$				500	mV
Collector-Emitter saturation resistance	$I_C=500mA, I_B=50mA$, pulsed, $t_p \leq 300\mu s, \sigma \leq 0.02$	$R_{CE(sat)}$		260	500	mΩ
Base -emitter saturation voltage	$I_C=1A, I_B=100mA$	$V_{BE(sat)}$			1.2	V
Base -emitter turn-on voltage	$V_{CE}=5V, I_C=1A$	$V_{BE(on)}$			1.1	V
Transition frequency	$V_{CE}=10V, I_C=50mA, f=100MHz$	f_T	150			MHz
Collector capacitance	$V_{CB}=10V, I_E=0A, i_e=0A, f=1MHz$	C_C			10	pF

Typical characteristics



Ordering information

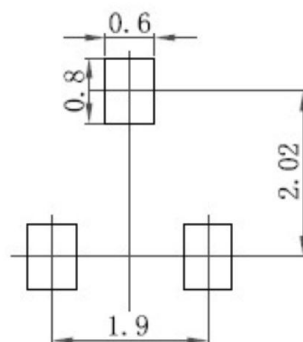
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
e	1.9		75	
e1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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.