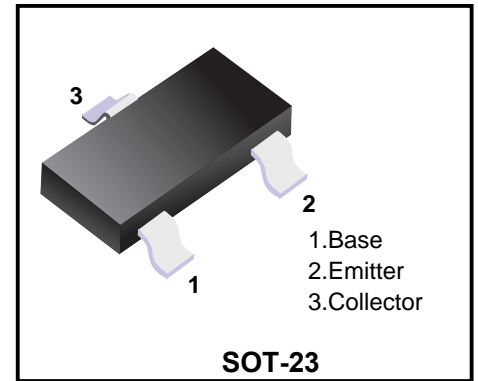


NPN Transistors



Features

- High voltage and high current: $V_{CE0} = 50\text{ V}$, $I_c = 150\text{ mA}$ (max)
- Excellent hFE linearity : $h_{FE}(I_c = 0.1\text{ mA})/h_{FE}(I_c = 2\text{ mA}) = 0.95$ (typ.)
- High hFE: $h_{FE} = 70\sim 700$
- Low noise: $NF = 1\text{ dB}$ (typ.), 10 dB (max)

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_c	150	mA
Base current	I_B	30	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	-55 to +125	°C

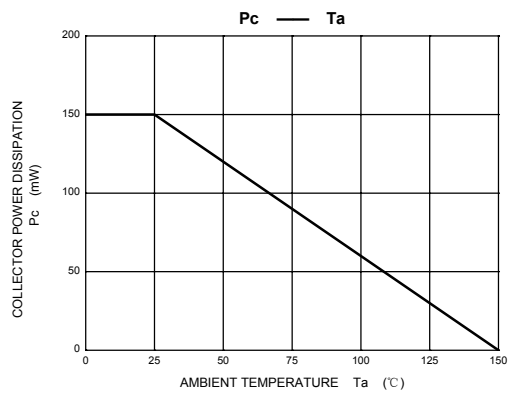
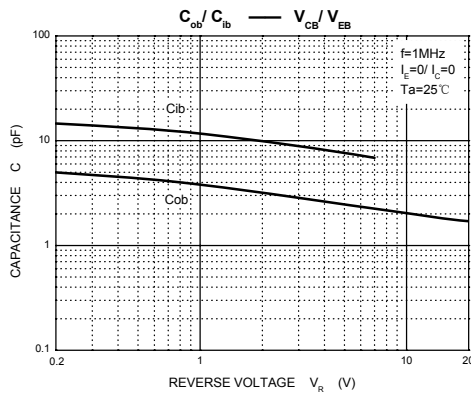
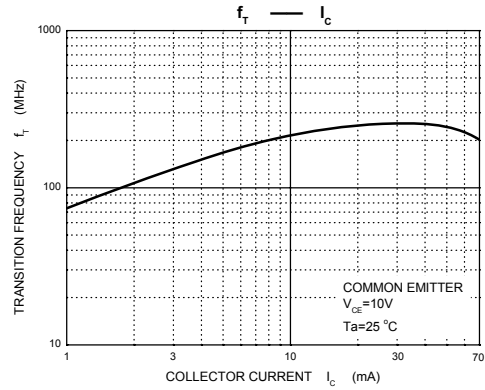
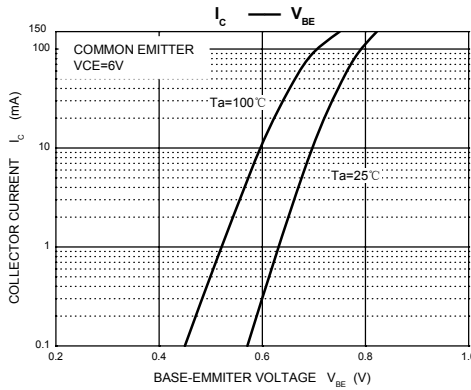
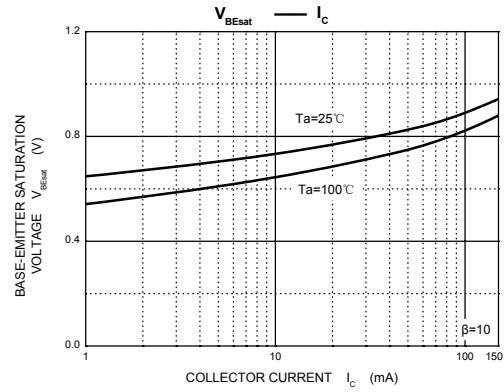
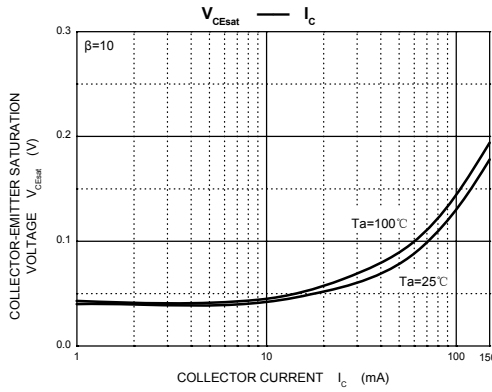
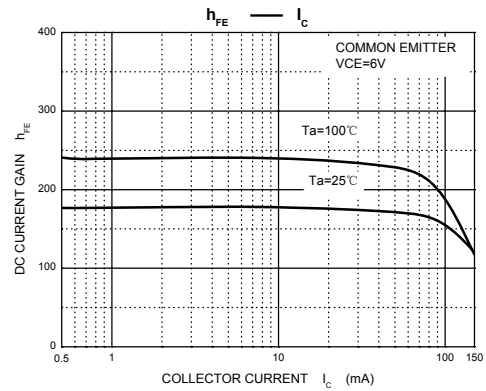
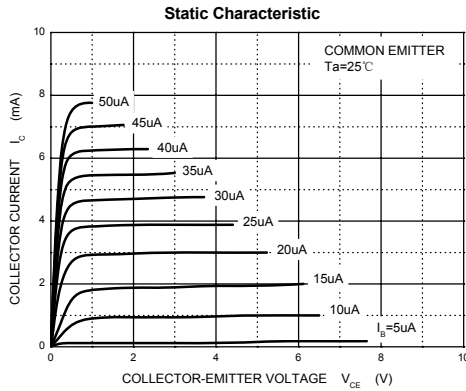
Electrical Characteristics (Ta=25°C unless otherwise specified.)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_c = 100\ \mu\text{A}$, $I_E = 0$	60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_c = 1\text{ mA}$, $I_B = 0$	50			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\ \mu\text{A}$, $I_c = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60\text{ V}$, $I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}$, $I_c = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 100\text{ mA}$, $I_B = 10\text{ mA}$			0.25	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 100\text{ mA}$, $I_B = 10\text{ mA}$			1.2	
DC current gain	hFE	$V_{CE} = 6\text{ V}$, $I_c = 2\text{ mA}$	70		700	
Noise figure	NF	$V_{CE} = 6\text{ V}$, $I_c = 0.1\text{ mA}$, $f = 1\text{ KHz}$, $R_G = 10\text{ K}\Omega$		1	10	dB
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$		2	3.5	pF
Transition frequency	f_T	$V_{CE} = 10\text{ V}$, $I_c = 1\text{ mA}$	80			MHz

hFE Classification

Type	2SC2712-O	2SC2712-Y	2SC2712-G	2SC2712-L
Range	70-140	120-240	200-400	350-700
Marking	LO	LY	LG	LL

Typical Characteristics



Ordering information

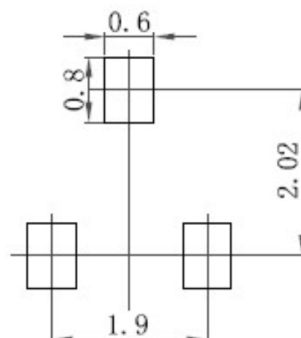
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

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.