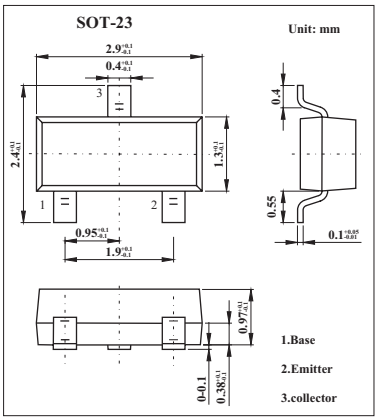
NPN General Purpose Transistors

BCW65,BCW66



Features

- For general AF applications.
- High current gain.
- Low collector-emitter saturation voltage.

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	BCW65	BCW66	Unit
Collector-base voltage	V_{CBO}	60	75	V
Collector-emitter voltage	V_{CEO}	32	45	V
Emitter-base voltage	V_{EBO}	5	5	V
Collector current	I_C	800		mA
Peak collector current	I_{CM}	1		A
Base current	I_B	100		mA
Peak base current	I_{BM}	200		mA
Total power dissipation,T_S = 79℃	P_{tot}	330		mW
Junction temperature	T_j	150		℃
Storage temperature	T_{stg}	-65 to +150		℃
Junction - soldering point	R_{thJS}	≤215		K/W

BCW65,BCW66

■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector-emitter breakdown voltage	BCW65	$V_{(BR)CEO}$	I_C = 10 mA, I_B = 0	32			V
	BCW66			45			
Collector-base breakdown voltage	BCW65	$V_{(BR)CBO}$	I_C = 10 μA, I_E = 0	60			V
	BCW66			75			
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E = 10 μA, I_C = 0	5			V
Collector cutoff current	BCW65	I_{CBO}	V_{CB} = 32 V, I_E = 0			20	nA
	BCW66		V_{CB} = 45 V, I_E = 0			20	
	BCW65	I_{CBO}	V_{CB} = 32 V, I_E = 0 , T_A = 150 ℃			20	μA
	BCW66		V_{CB} = 45 V, I_E = 0 , T_A = 150 ℃			20	
Emitter cutoff current		I_{EBO}	V_{EB} = 4 V, I_C = 0			20	nA
DC current gain * hFE-grp.	A/F	h_{FE}	I_C = 100 μA, V_{CE} = 10 V	35			
	B/G			50			
	C/H			80			
DC current gain * hFE-grp.	A/F	h_{FE}	I_C = 10 mA, V_{CE} = 1 V	75			
	B/G			110			
	C/H			180			
DC current gain * hFE-grp.	A/F	h_{FE}	I_C = 100 mA, V_{CE} = 1 V	100	160	250	
	B/G			160	250	400	
	C/H			250	350	630	
Collector-emitter saturation voltage *		$V_{CE(sat)}$	I_C = 100 mA, I_B = 10 mA			0.3	V
			I_C = 500 mA, I_B = 50 mA			0.7	
Base-emitter saturation voltage *		$V_{BE(sat)}$	I_C = 100 mA, I_B = 10 mA			1.25	
			I_C = 500 mA, I_B = 50 mA			2	
Transition frequency		f_T	I_C = 50 mA, V_{CE} = 5 V, f = 100 MHz		170		MHz
Collector-base capacitance		Ccb	V_{CB} = 10 V, f = 1 MHz		6		pF
Emitter-base capacitance		Ceb	V_{EB} = 0.5 V, f = 1 MHz		60		

* Pulse test: t ≤ 300μs, D = 2%.

■ h_{FE} Classification

TYPE	BCW65		
Rank	A	B	C
Marking	EAs	EBs	ECs

TYPE	BCW66		
Rank	F	G	H
Marking	EFs	EGs	EHs