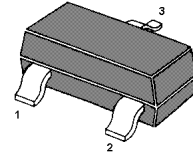


# BCW60

## NPN Silicon Epitaxial Planar Transistors

for general purpose switching and amplification.

These transistors are subdivided into three groups B, C and D, according to their current gain.



1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	32	V
Collector Emitter Voltage	$V_{CEO}$	32	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	100	mA
Peak Collector Current	$I_{CM}$	200	mA
Peak Base Current	$I_{BM}$	200	mA
Total Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ }\mu\text{A}$  at $V_{CE} = 5\text{ V}$ , $I_C = 2\text{ mA}$  at $V_{CE} = 1\text{ V}$ , $I_C = 50\text{ mA}$	BCW60B	$h_{FE}$	20	-	-
	BCW60C	$h_{FE}$	40	-	-
	BCW60D	$h_{FE}$	100	-	-
	BCW60B	$h_{FE}$	180	-	310
	BCW60C	$h_{FE}$	250	-	460
	BCW60D	$h_{FE}$	380	-	630
	BCW60B	$h_{FE}$	70	-	-
	BCW60C	$h_{FE}$	90	-	-
	BCW60D	$h_{FE}$	100	-	-
Collector Base Cutoff Current at $V_{CB} = 32\text{ V}$	$I_{CBO}$	-	-	20	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	$I_{EBO}$	-	-	20	nA
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 0.25\text{ mA}$	$V_{CEsat}$	0.05	-	0.35	V
Collector Emitter Saturation Voltage at $I_C = 50\text{ mA}$ , $I_B = 1.25\text{ mA}$	$V_{CEsat}$	0.1	-	0.55	V
Base Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 0.25\text{ mA}$	$V_{BEsat}$	0.6	-	0.85	V
Base Emitter Saturation Voltage at $I_C = 50\text{ mA}$ , $I_B = 1.25\text{ mA}$	$V_{BEsat}$	0.7	-	1.05	V
Base Emitter Voltage at $I_C = 2\text{ mA}$ , $V_{CE} = 5\text{ V}$	$V_{BE(on)}$	0.55	-	0.75	V
Transition Frequency at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	100	250	-	MHz
Collector Base Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{CBO}$	-	1.7	-	pF

**TOP DYNAMIC**

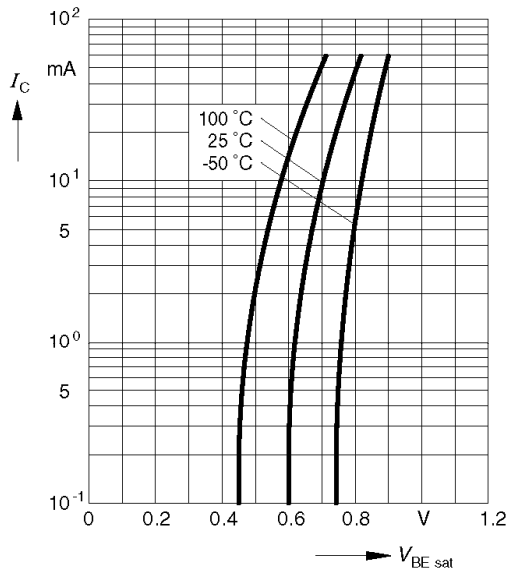


ISO 14001 : 2004 Certificate No. 121505007  
 ISO 9001 : 2008 Certificate No. 50114012  
 OHSAS 18001 : 2007 Certificate No. 0519150806  
 IECQ CC 080000 Certificate No. EQM18007 HANG

Dated : 21/12/2012

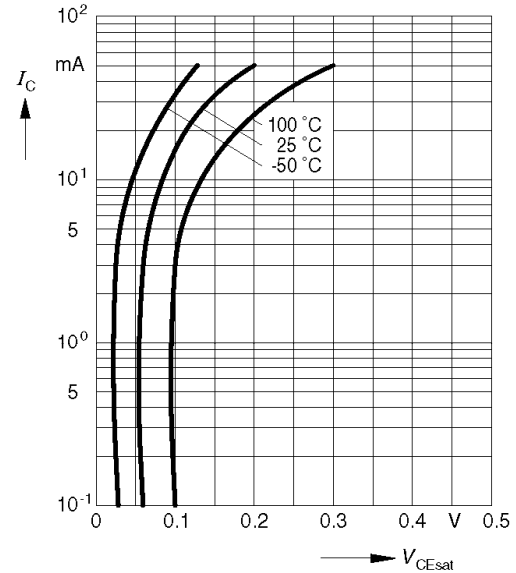
## Base-emitter saturation voltage

$$I_C = f(V_{BEsat}), h_{FE} = 40$$



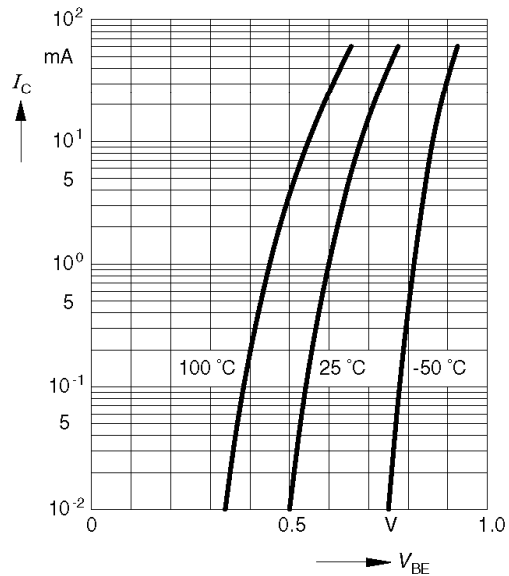
## Collector-emitter saturation voltage

$$I_C = f(V_{CEsat}), h_{FE} = 40$$



## Collector current $I_C = f(V_{BE})$

$$V_{CE} = 5V$$



## DC current gain $h_{FE} = f(I_C)$

$$V_{CE} = 5V$$

