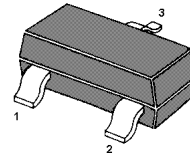


BCW66

NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications



1. Base 2. Emitter 3. Collector
TO-236 Plastic Package

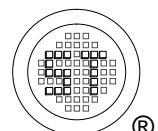
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	75	V
Collector Emitter Voltage	V_{CEO}	45	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_{C}	600	mA
Power Dissipation	P_{tot}	300	mW
Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Resistance Ratings

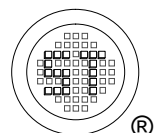
Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient ¹⁾	$R_{\theta\text{JA}}$	417	$^\circ\text{C/W}$

¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate.



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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $V_{CE} = 10\text{ V}$, $I_C = 0.1\text{ mA}$	h_{FE}	50	-	-
at $V_{CE} = 1\text{ V}$, $I_C = 10\text{ mA}$	h_{FE}	110	-	-
at $V_{CE} = 1\text{ V}$, $I_C = 100\text{ mA}$	h_{FE}	160	400	-
at $V_{CE} = 2\text{ V}$, $I_C = 500\text{ mA}$	h_{FE}	60	-	-
Collector Emitter Cutoff Current at $V_{CE} = 45\text{ V}$	I_{CES}	-	20	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	20	nA
Collector Emitter Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CES}$	75	-	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	45	-	V
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $I_C = 100\text{ mA}$, $I_B = 10\text{ mA}$ at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	- -	0.3 0.7	V
Base Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	2	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 20\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	12	pF
Turn-on Time at $I_{B1} = I_{B2} = 15\text{ mA}$	t_{on}	-	100	ns
Turn-off Time at $I_C = 150\text{ mA}$, $R_L = 150\text{ }\Omega$	t_{off}	-	400	ns



Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

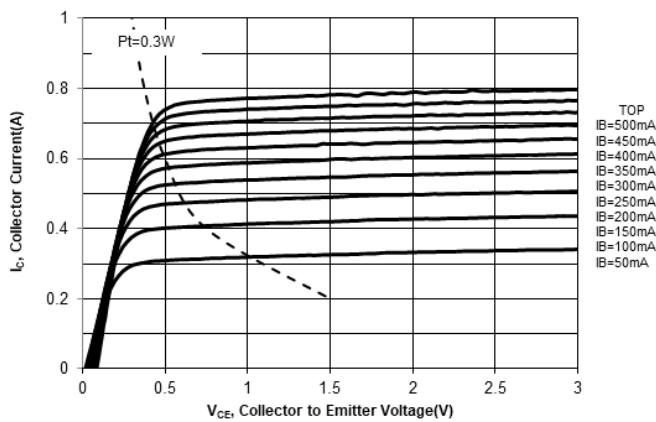


Fig. 2 Collector Current vs. Base to Emitter Voltage

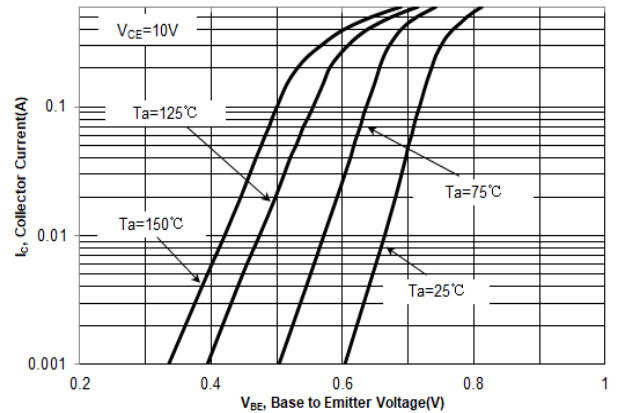


Fig. 3 $h_{FE,DC}$ Current Gain vs. Collector Current

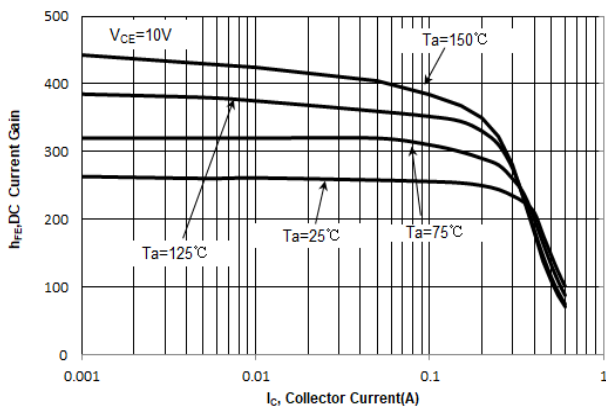


Fig. 4 $V_{BE(SAT)}$ vs. Collector Current

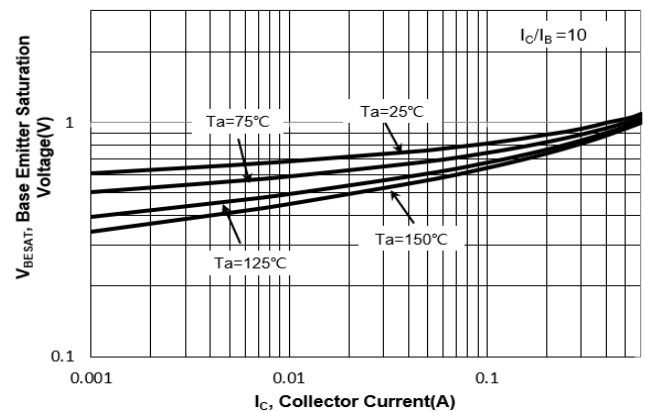


Fig. 5 $V_{CE(SAT)}$ vs. Collector Current

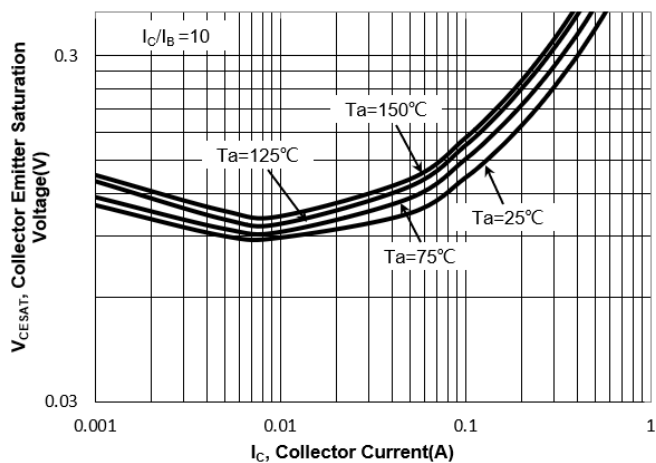
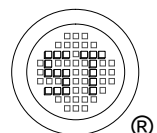
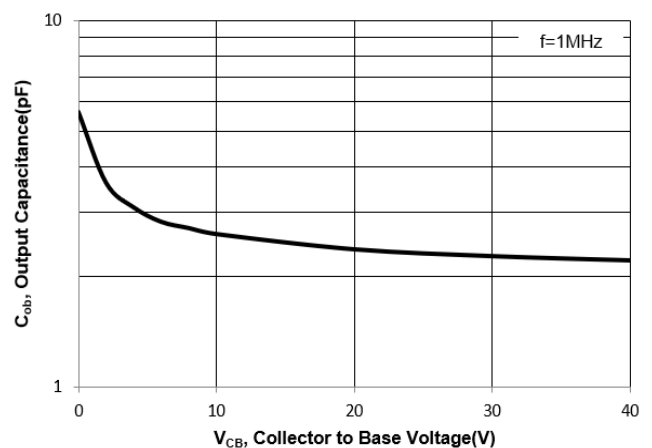


Fig. 6 Output Capacitance

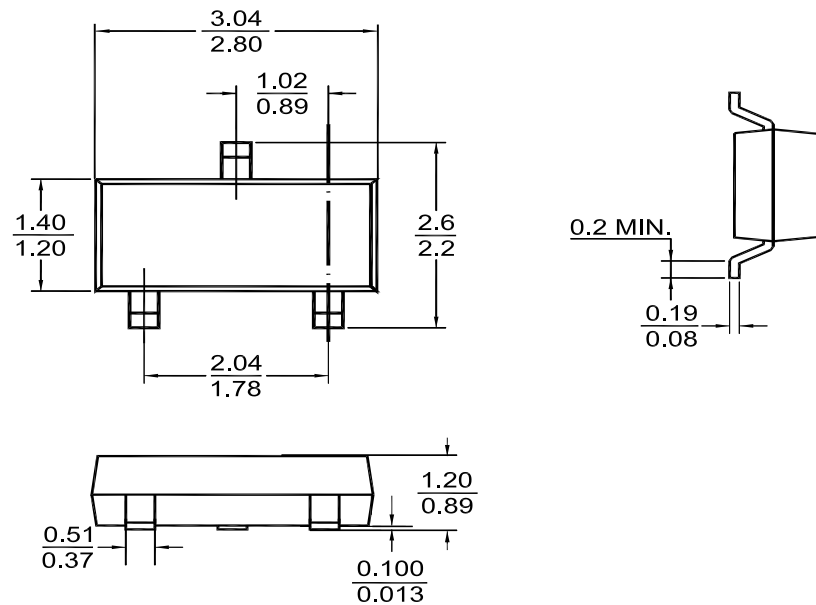


BCW66

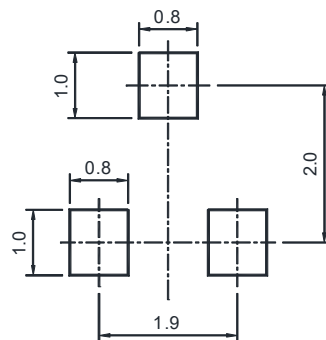
PACKAGE OUTLINE

Plastic surface mounted package (Dimensions in mm)

TO-236



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-236	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" 1P " = Part No.
 "YM" = Date Code Marking
 "Y" = Year
 "M" = Month
 Font type: Arial

