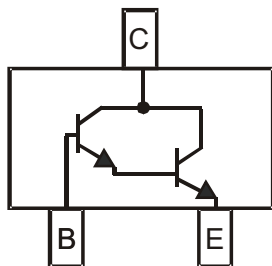


NPN Darlington Transistor

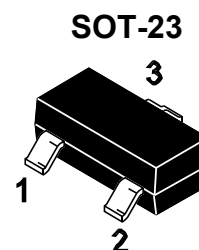
Features

- High Collector Current
- High Current Gain

Equivalent Circuit



BCV27
BCV47



1.Base 2.Emitter 3.Collector

Marking Code:

BCV27 : FF

BCV47 : FG

Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

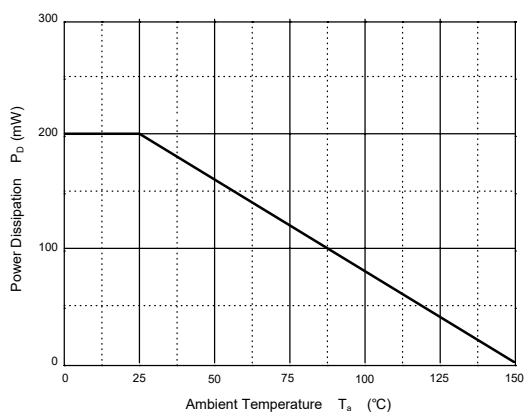
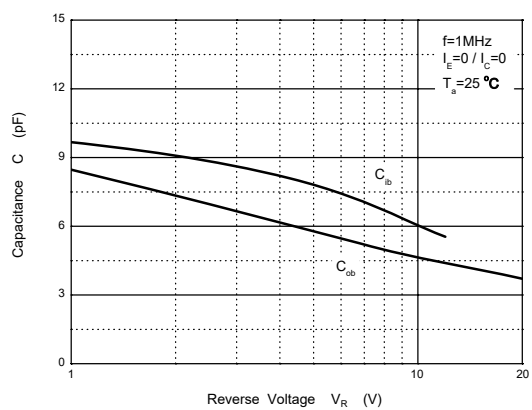
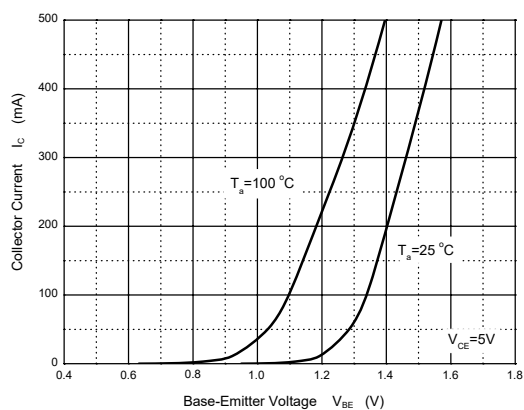
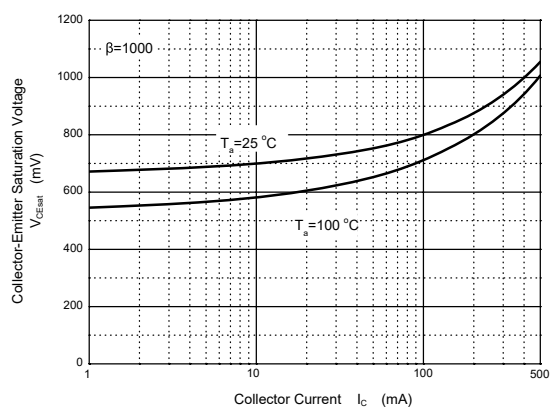
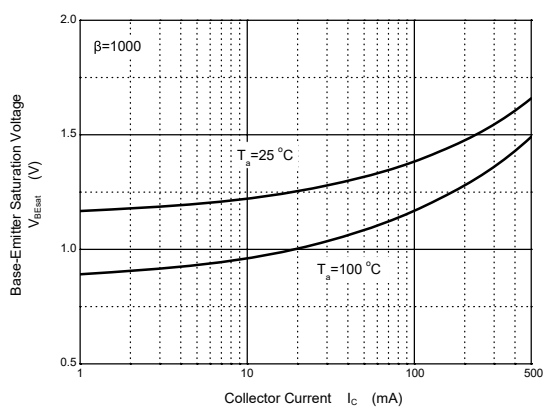
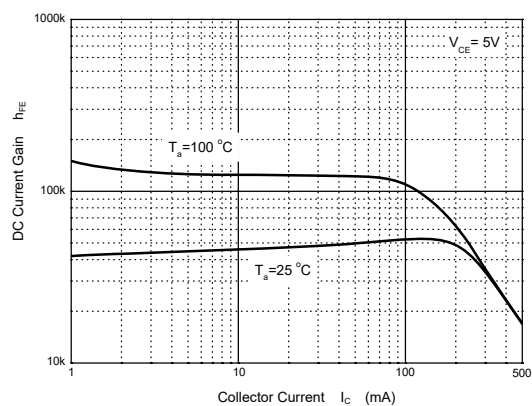
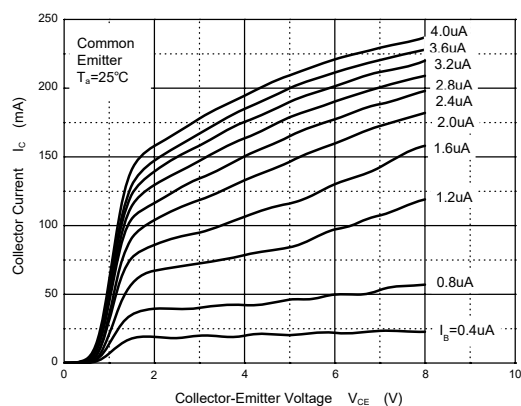
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	BCV27 40	V
BCV47		80	
Collector Emitter Voltage	V_{CEO}	BCV27 30	V
BCV47		60	
Emitter Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Peak Collector Current	I_{CM}	800	mA
Base Current	I_B	100	mA
Maximum Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$	BCV27	H_{FE}	4000	--	--	--
	BCV47		2000	--	--	
at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$	BCV27		10000	--	--	
	BCV47		4000	--	--	
at $V_{CE} = 5\text{ V}$, $I_C = 100\text{ mA}$	BCV27		20000	--	--	
	BCV47		10000	--	--	
Collector Base Cutoff Current						
at $V_{CB} = 30\text{ V}$	BCV27	I_{CBO}	--	--	100	nA
at $V_{CB} = 60\text{ V}$	BCV47		--	--	100	
Emitter Base Cutoff Current						
at $V_{EB} = 10\text{ V}$		I_{EBO}	--	--	100	nA
Collector Base Breakdown Voltage						
at $I_C = 100\text{ }\mu\text{A}$	BCV27	$V_{(BR)CBO}$	40	--	--	V
	BCV47		80	--	--	
Collector Emitter Breakdown Voltage						
at $I_C = 10\text{ mA}$	BCV27	$V_{(BR)CEO}$	30	--	--	V
	BCV47		60	--	--	
Emitter Base Breakdown Voltage						
at $I_E = 10\text{ }\mu\text{A}$		$V_{(BR)EBO}$	10	--	--	V
Collector Emitter Saturation Voltage						
at $I_C = 100\text{ mA}$, $I_B = 0.1\text{ mA}$		$V_{CE(sat)}$	--	--	1	V
Base Emitter Saturation Voltage						
at $I_C = 100\text{ mA}$, $I_B = 0.1\text{ mA}$		$V_{BE(sat)}$	--	--	1.5	V
Base Emitter On Voltage						
at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$		$V_{BE(on)}$	--	--	1.4	V
Transition Frequency						
at $V_{CE} = 5\text{ V}$, $I_C = 30\text{ mA}$, $f = 100\text{ MHz}$		F_T	--	220	--	MHz

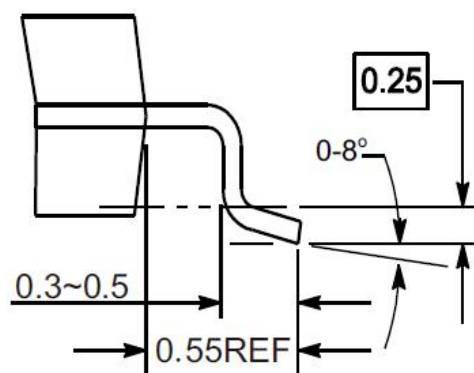
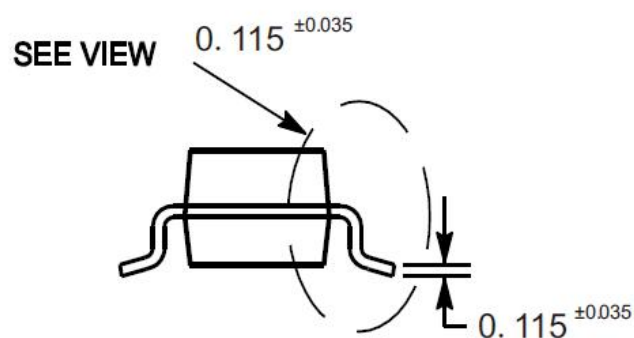
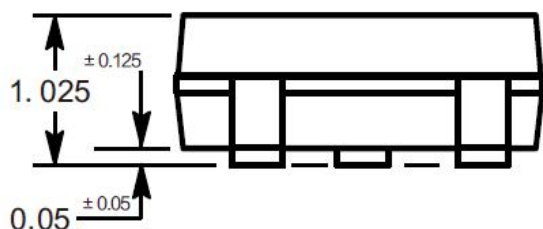
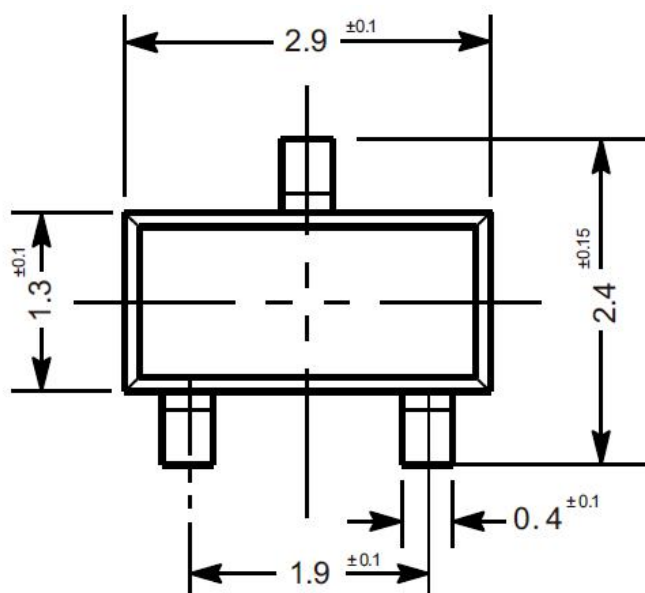
Typical Characteristic Curves



Package Outline

SOT-23

Dimensions in mm



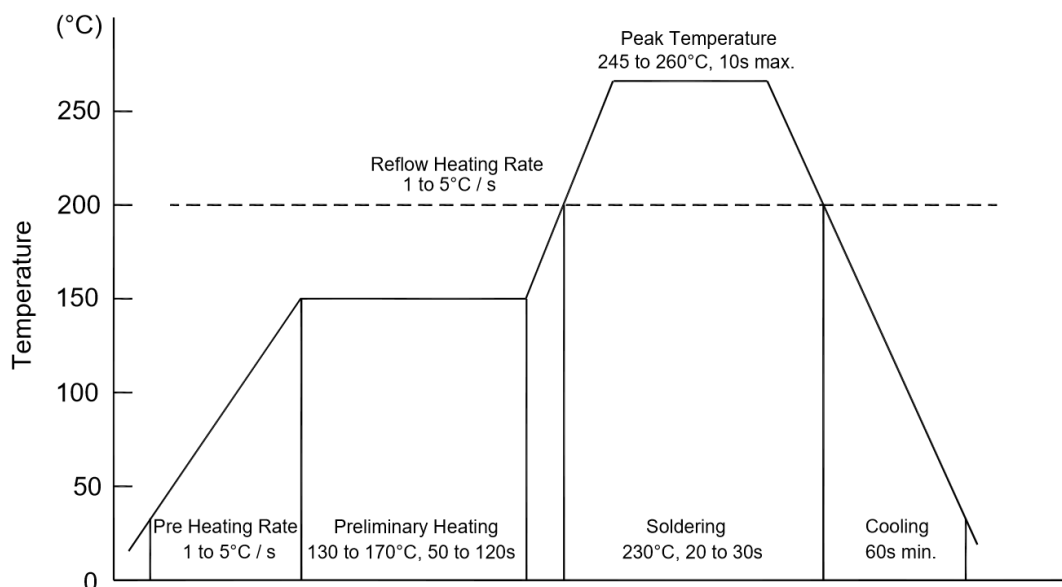
VIEW C

Ordering Information

Device	Package	Shipping
BCV27,BCV47	SOT-23	3,000PCS/Reel&7inches

Conditions of Soldering and Storage

◆ Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

◆ Conditions of hand soldering

- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing