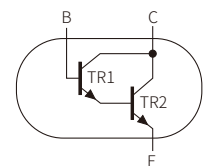
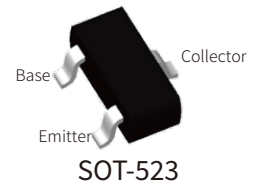


FEATURES

- Medium current (max. 500 mA)
- Low voltage (max. 60 V)
- High DC current gain (min. 20 000)
- Complements to BCV26



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

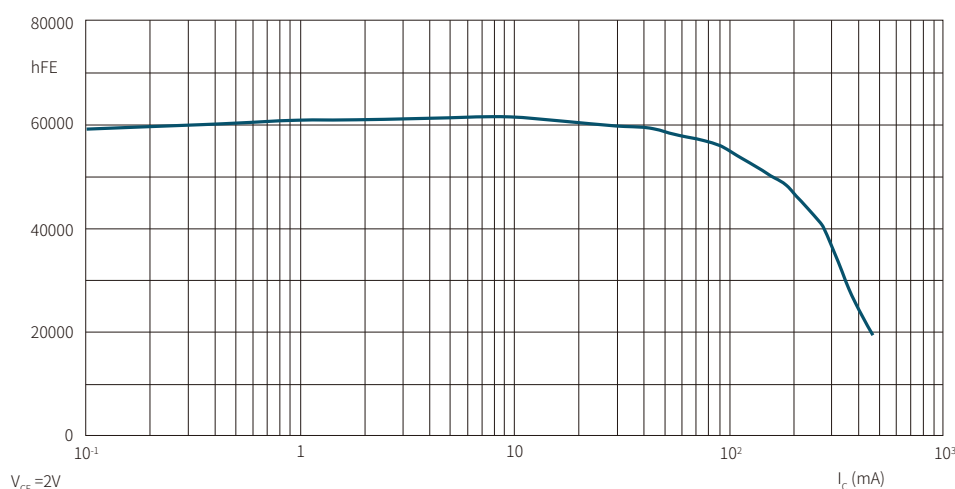
Parameter	Symbol	Value	Unit
Collector - Base Voltage	V_{CBO}	40	V
Collector - Emitter Voltage	V_{CEO}	30	V
Emitter - Base Voltage	V_{EBO}	10	V
Collector Current - Continuous	I_C	500	mA
Collector Current - Pulse	I_{CP}	800	mA
Base Current	I_B	100	mA
Collector Power Dissipation	P_C	150	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C=100\mu\text{A}, I_E=0$	40			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C=1\text{mA}, I_B=0$	30			
Emitter - base breakdown voltage	V_{EBO}	$I_E=100\mu\text{A}, I_C=0$	10			
Collector-base cut-off current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=10\text{V}, I_C=0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$			1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$			1.6	
Base - emitter on-state voltage	$V_{BE(on)}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$			1.4	
DC current gain	hFE	$V_{CE}=5\text{V}, I_C=1\text{mA}$	4000			
		$V_{CE}=5\text{V}, I_C=10\text{mA}$	10000			
		$V_{CE}=5\text{V}, I_C=100\text{mA}$	20000			
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=30\text{mA}, f=100\text{MHz}$		220		MHz

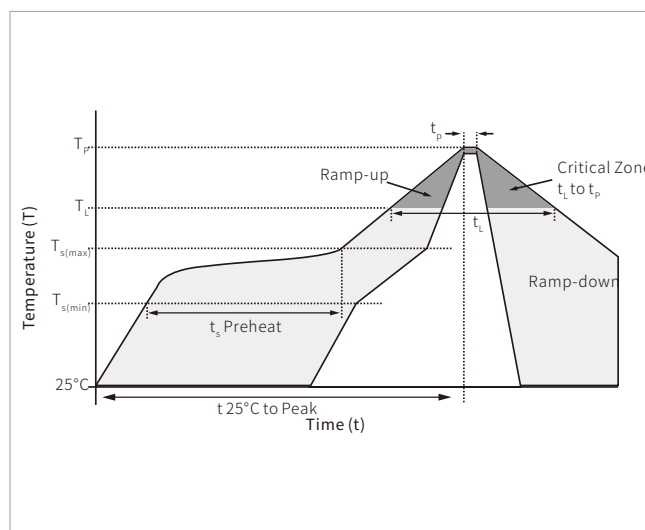
TYPICAL CHARACTERISITICS

Fig.1 DC current gain; typical values

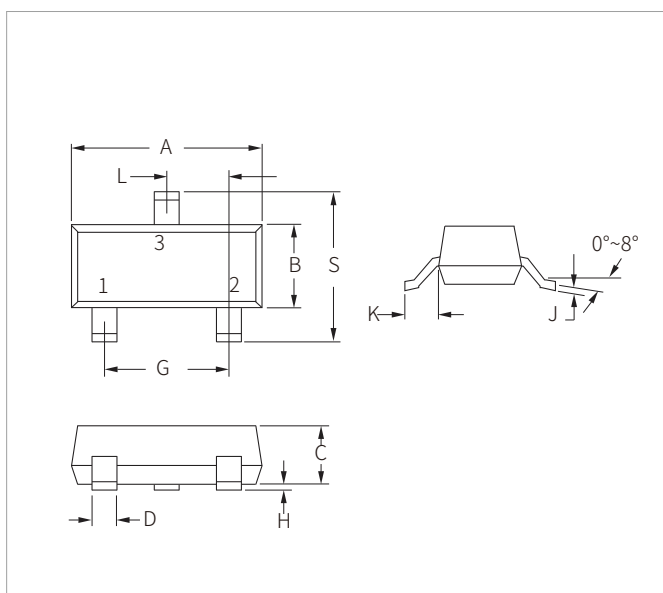


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

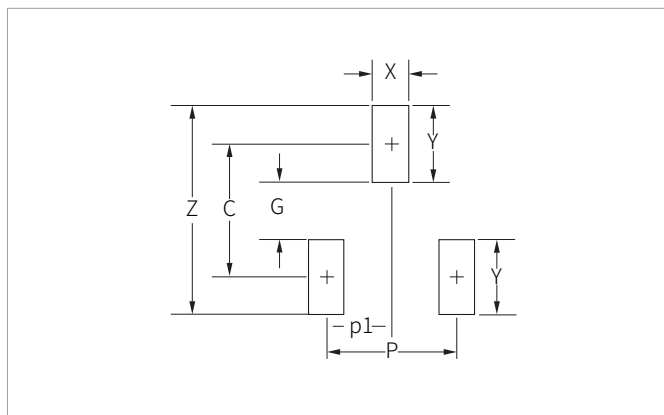


SOT-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.70	0.059	0.067
B	0.75	0.85	0.029	0.033
C	0.60	0.80	0.023	0.031
D	0.15	0.30	0.005	0.012
G	1.00BSC		0.039BSC	
H	0.00	0.10	0.000	0.004
J	0.10	0.20	0.004	0.008
K	(0.22)		(0.009)	
L	0.50BSC		0.020BSC	
S	1.45	1.75	0.057	0.069

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(1.40)	(0.055)
P	1.00	0.039
p1	0.50	0.020
G	0.60	0.024
X	0.40	0.016
Y	0.80	0.031
Z	2.20	0.087

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BCV27T	SOT-523	3000PCS	7"

To find your local partner within Semiwell 's website : www.semiwell.com

© 2023 Semiwell Microelectronics Co.,Ltd.

The content of this document has been carefully checked and understood. However, neither Semiwell nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiwell does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiwell. Latest publications and a complete disclaimer can be downloaded from the Semiwell website. All trademarks recognized.