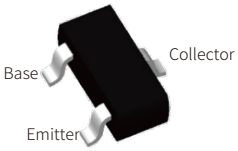
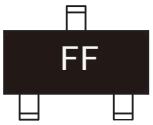
FEATURES

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



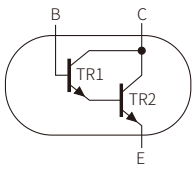
SOT-523



Marking

APPROVALS

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



Schematic Symbol

MAXIMUM RATINGS (T_A=25°C)

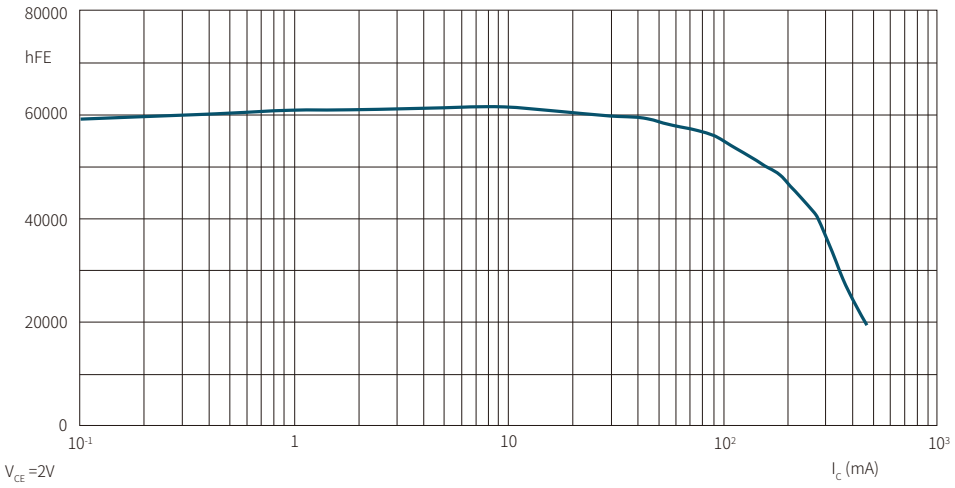
Parameter	Symbol	Value	Unit
Collector - Base Voltage	V_{CBO}	40	V
Collector - Emitter Voltage	V_{CEO}	30	V
Emitter - Base Voltage	V_{EBO}	10	V
Collector Current - Continuous	I_C	500	mA
Collector Current - Pulse	I_{CP}	800	mA
Base Current	I_B	100	mA
Collector Power Dissipation	P_C	150	mW
Thermal Resistance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

ELECTRICAL CHARACTERISTICS(T_A=25°C)

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

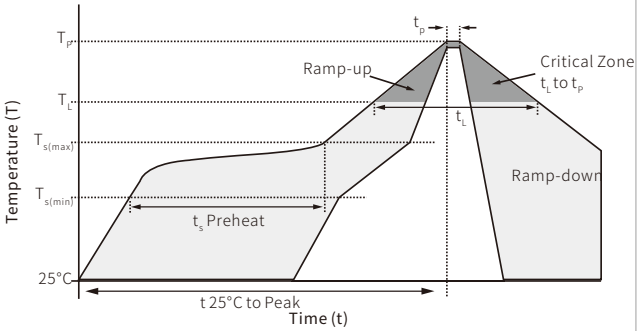
TYPICAL CHARACTERISITICS

Fig.1 DC current gain; typical values

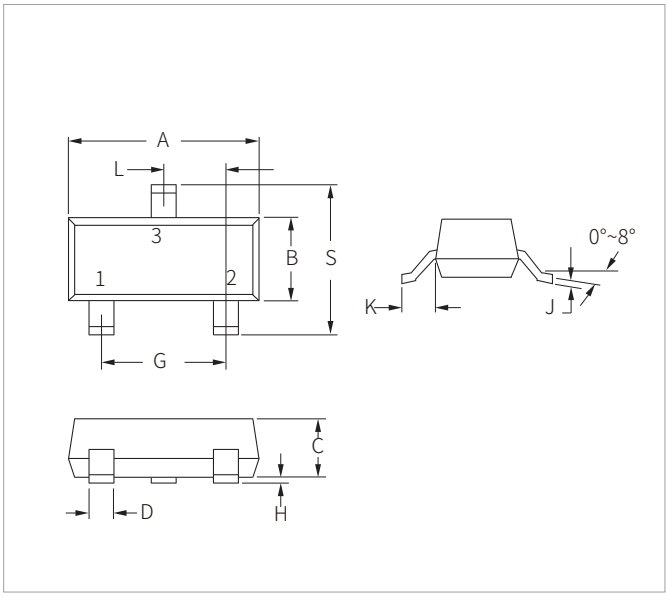


SOLDERING PARAMETERS

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

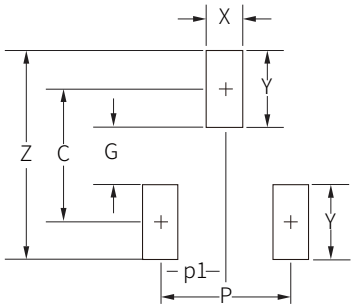


SOT-523 PACKAGE INFORMATION



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”

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