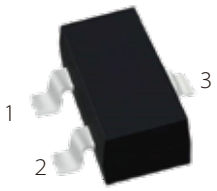
FEATURES

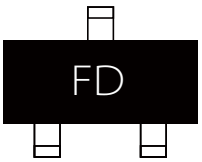
- for preamplifier input applications



SOT-23

MECHANICAL DATA

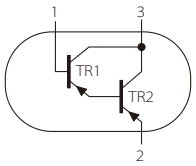
- SOT-23 small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: Any



Marking

APPROVALS

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



Schematic Symbol

MAXIMUM RATINGS (T_A=25°C)

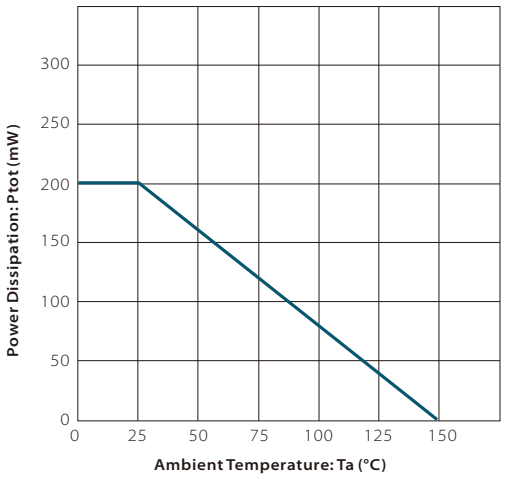
Parameter		Symbol	Value	Unit
Collector-Base Voltage	BCV26	$-V_{CBO}$	40	V
	BCV46		80	
Collector-Emitter Voltage	BCV26	$-V_{CEO}$	30	V
	BCV46		60	
Emitter Base Voltage		$-V_{EBO}$	10	V
Collector Current		$-I_C$	500	mA
Peak Collector Current		$-I_{CM}$	800	mA
Base Current		$-I_B$	100	mA
Total Power Dissipation		P_{tot}	200	mW
Junction Temperature		T_J	150	℃
Storage Temperature		T_{STG}	-65~+150	℃

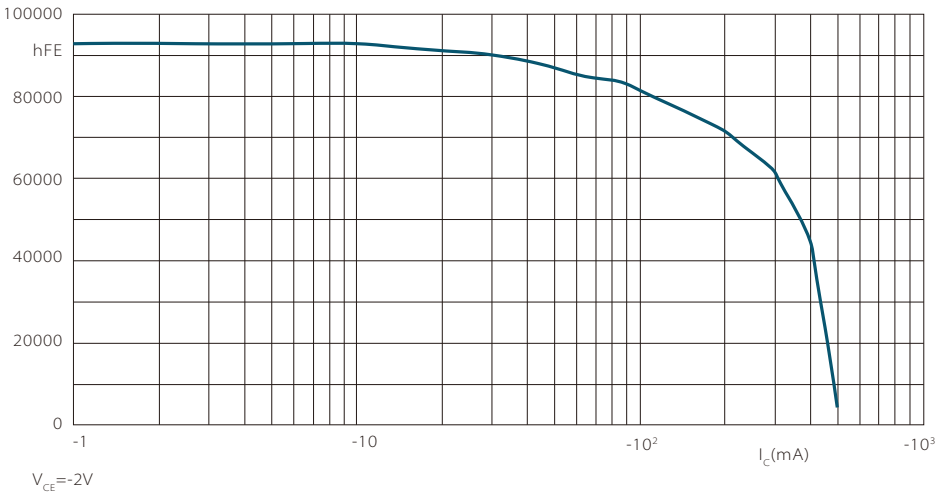
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter		Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Base Breakdown Voltage	BCV26	$-V_{(BR)CBO}$	$-I_C$=100uA	40			V
	BCV46			80			
Collector Emitter Breakdown Voltage	BCV26	$-V_{(BR)CEO}$	$-I_C$=10mA	30			
	BCV46			60			
Collector Emitter Breakdown Voltage	BCV26	$-I_{CBO}$	V_{CB}=30V			100	nA
	BCV46		V_{CB}=60V			100	
DC Current Gain	BCV26	h_{FE}	$-V_{CE}$= 5V, $-I_C$=1mA	4000			
	BCV46			2000			
	BCV26		$-V_{CE}$= 5V, $-I_C$=10mA	10000			
	BCV46			4000			
	BCV26		$-V_{CE}$= 5V, $-I_C$=100mA	20000			
	BCV46			10000			
Emitter Cutoff Current		$-I_{EBO}$	$-V_{EB}$=10V			100	nA
Emitter Base Breakdown Voltage		$-V_{(BR)EBO}$	$-I_E$=10uA	10			V
Collector Emitter Saturation Voltage		$-V_{CE(sat)}$	$-I_C$=100mA, $-I_B$ =0.1mA			1	
Base Emitter Saturation Voltage		$-V_{BE(sat)}$	$-I_C$=100mA, $-I_B$ =0.1mA			1.5	
Base Emitter On-state Voltage		$-V_{BE(on)}$	$-I_C$=100mA, $-V_{CE}$ =5V			1.4	
Transition Frequency		f_T	$-V_{CE}$=5V, $-I_C$=30mA, f=100MHz		220		MHz

TYPICAL CHARACTERISTICS

Power Dissipation vs Ambient Temperature

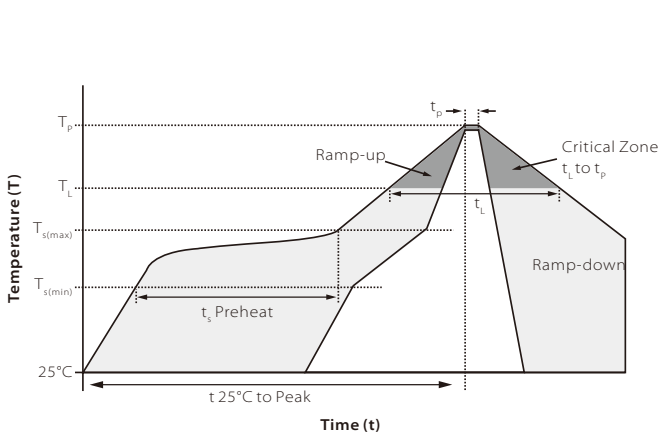




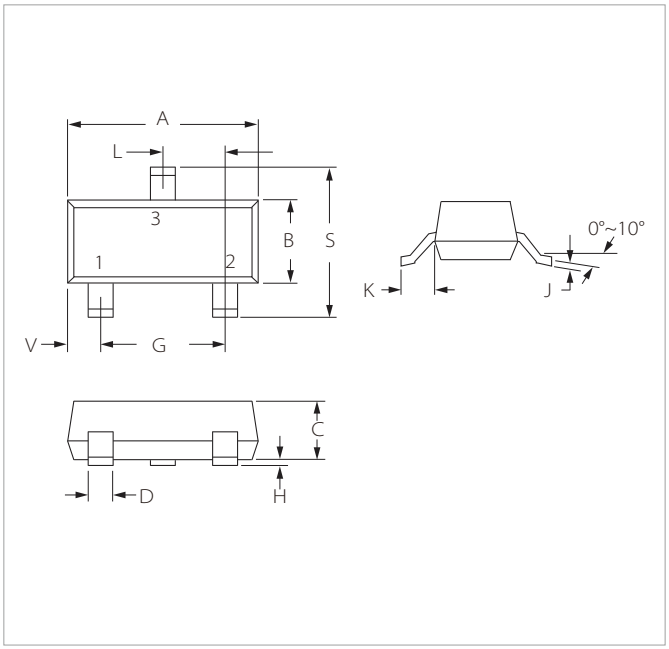
DC current gain; typical values

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

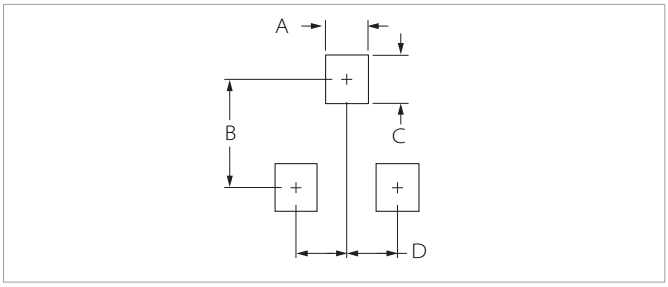


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BCV26-BCV46	SOT-23	3000PCS	7″

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