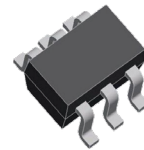


FEATURES

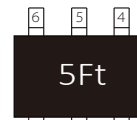
- | Epoxy meets UL-94 V-0 flammability rating

- | Surface mount package ideally Suited for Automatic Insertion

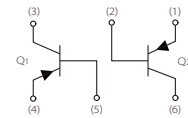
- | PNP



SOT-363



Marking



Schematic Symbol

MECHANICAL DATA

- | Package: SOT-363

- | Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102

APPROVALS

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

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

Symbol	Parameter	Conditions	Value	Unit
V_{CBO}	Collector-Base Voltage	$I_C=-10\mu\text{A}, I_E=0$	-80	V
V_{CEO}	Collector-Emitter Voltage	$I_C=-10\text{mA}, I_B=0$	-65	V
V_{EBO}	Emitter-Base Voltage	$I_E=-10\mu\text{A}, I_C=0$	-5	V
I_C	Collector Current		-100	mA
P_C	Total Device Dissipation		200	mW
T_J	Junction Temperature		-55 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature		-55 to +150	$^{\circ}\text{C}$

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

Symbol	Parameter	Conditions	Min.	TYP.	Max.	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=-10\mu\text{A}, I_E=0$	-80			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-10\text{mA}, I_B=0$	-65			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=-10\mu\text{A}, I_C=0$	-5			V
I_{CBO}	Collector-Base cut-off current	$V_{CB}=-30\text{V}, I_B=0$			-15	nA
I_{EBO}	Emitter-Base cut-off current	$V_{EB}=-5\text{V}, I_C=0$			-100	nA
h_{FE}	DC current gain	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$	110			
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-0.3	V
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=-100\text{mA}, I_B=-5\text{mA}$			-0.65	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-0.85	V
VBE	Base-emitter Voltage	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$	-0.6		-0.75	V
Ft	Transition frequency	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$	100			MHz

CHARACTERISTIC CURVES

Figure 1: Static Characteristic

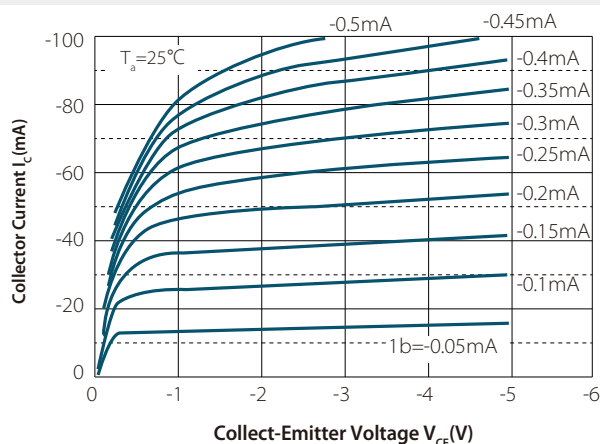


Figure 2: DC Current Gain

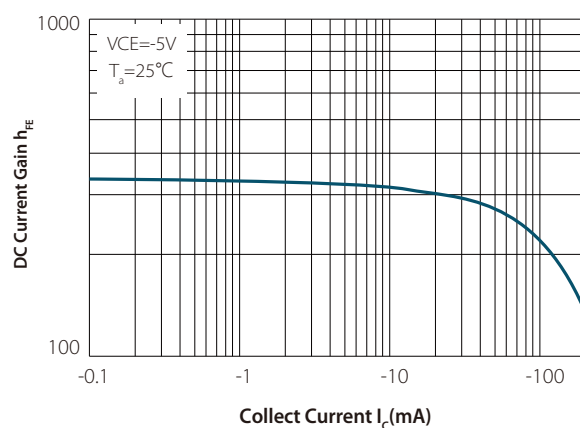


Figure 3: Collector-Emitter Saturation Voltage

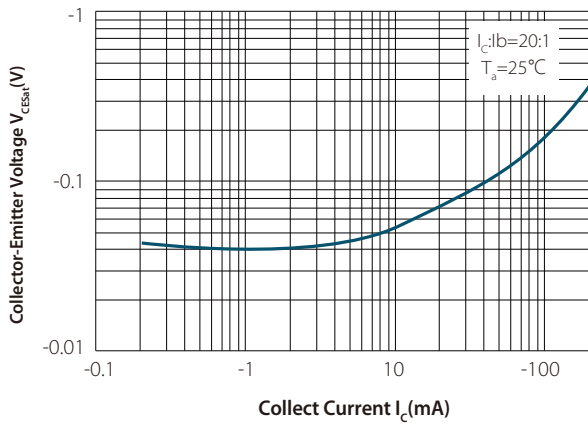


Figure 4: Base-Emitter Saturation Voltage

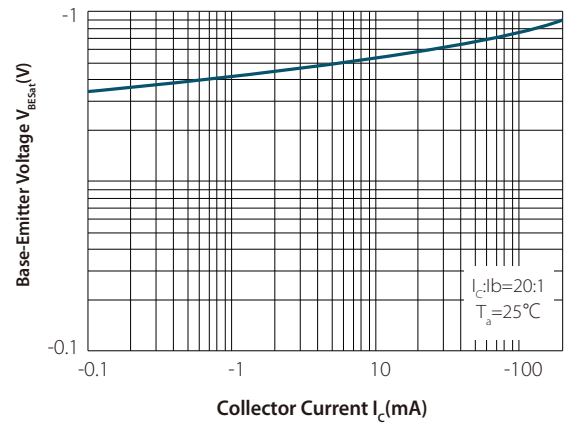


Figure 5: Base-Emitter On Voltage

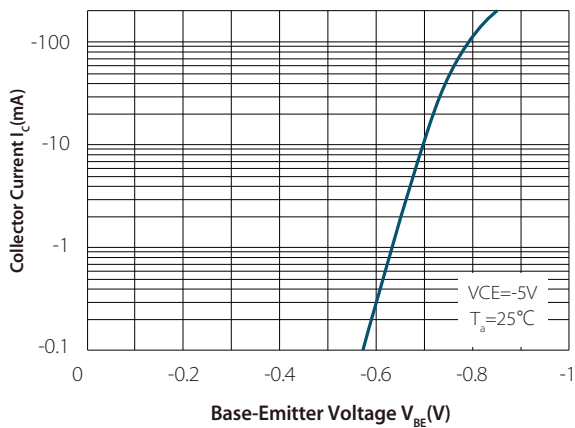
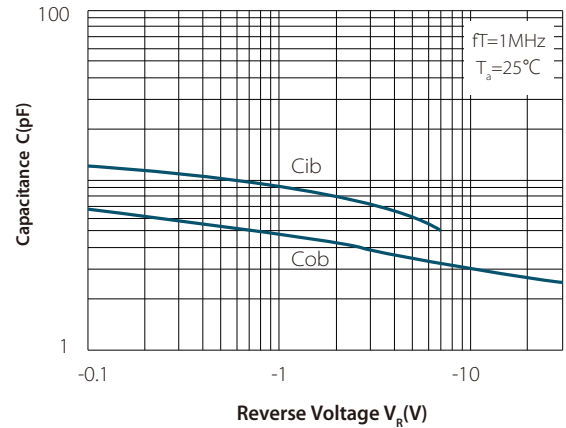
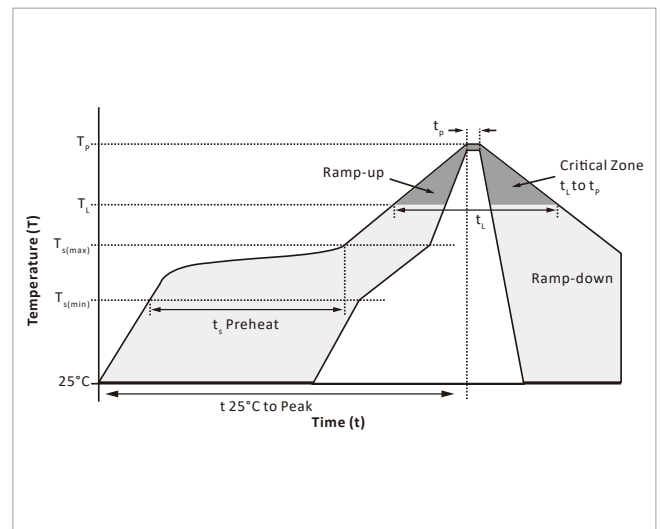


Figure 6: $C_{ob}/C_{ib}-V_{CB}/V_{EB}$

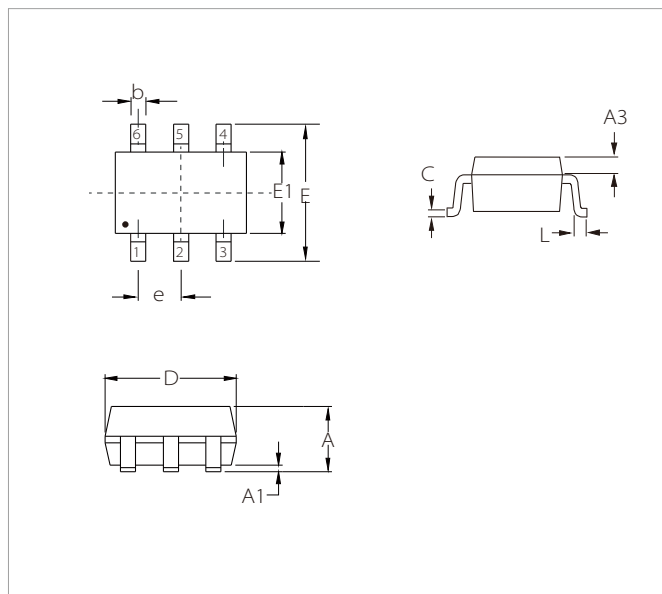


SOLDERING PARAMETERS

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

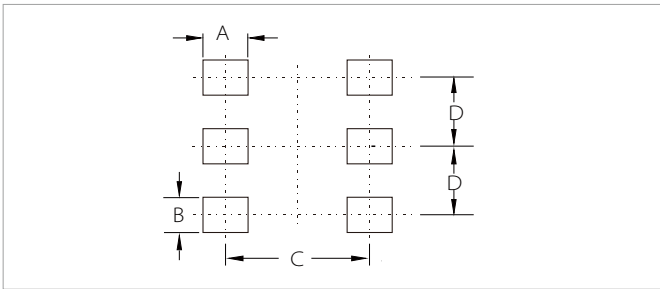


SOT-363 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.800	1.100	0.031	0.043
A1	0.000	0.100	0.000	0.004
A3	0.20REF		0.008REF	
D	1.800	2.200	0.070	0.086
E1	1.150	1.350	0.045	0.053
E	2.000	2.200	0.078	0.086
e	0.65BSC		0.026BSC	
b	0.100	0.300	0.004	0.012
L	0.100	0.300	0.004	0.012
C	0.100	0.250	0.004	0.010

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	0.50	0.0197
B	0.40	0.0157
C	1.90	0.0748
D	0.65	0.0250

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BC856S	SOT-363	3000PCS	7"

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

© 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.