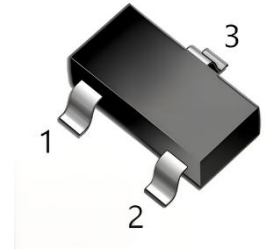


TRANSISTOR (NPN)

Parameter	Value	Unit
V_{CEO}	45	V
I_C	100	mA

1. BASE
2. EMITTER
3. COLLECTOR



SOT-23

Features

- Complementary to PNP Transistor S9015
- Epitaxial Planar Die Construction

Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	100	mA
P_C	Total Device Dissipation	200	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ +150	°C
$R_{\theta JA}$	Thermal Resistance From Junction to Ambient	625	°C/W

Note:

Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

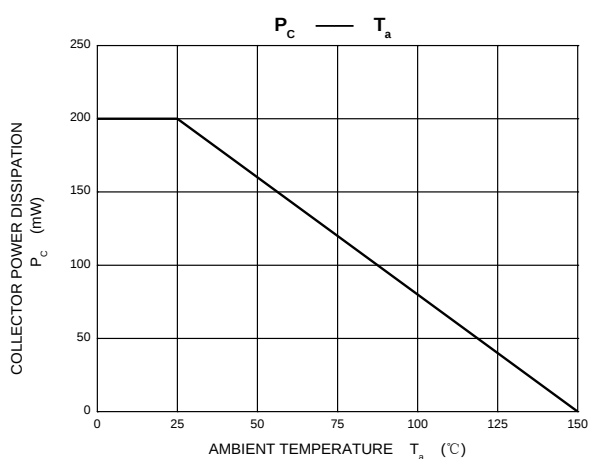
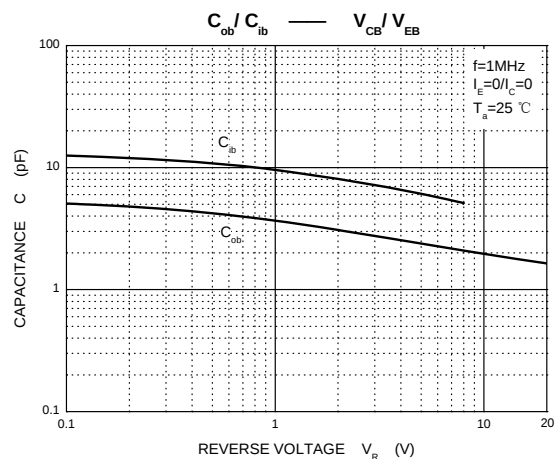
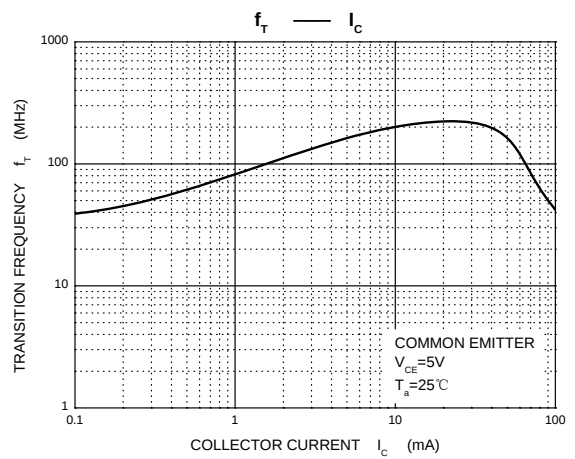
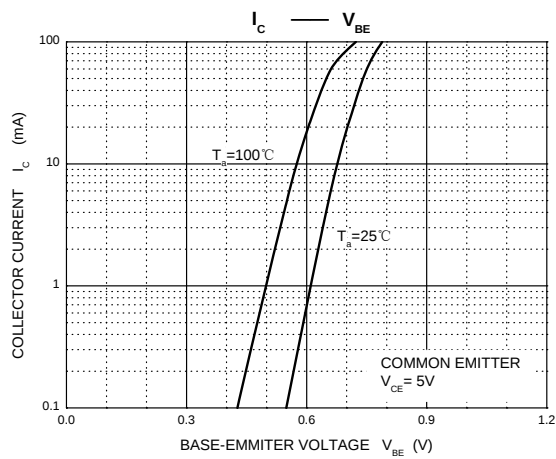
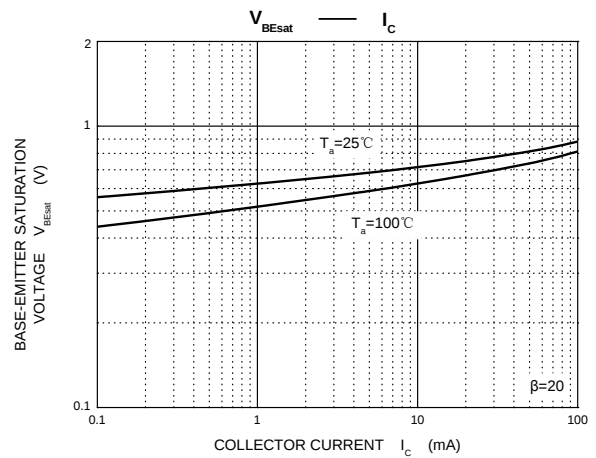
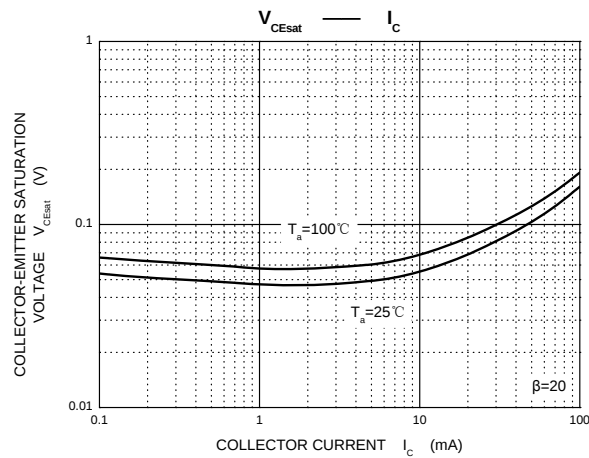
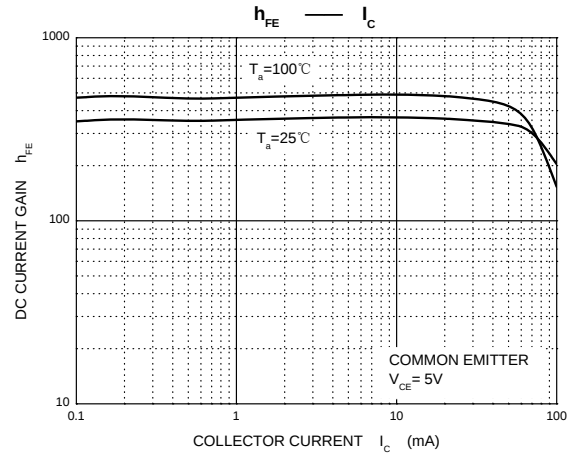
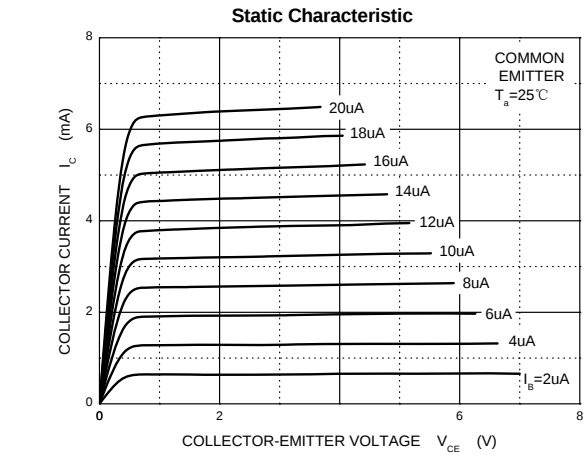
Electrical Characteristics(Ta=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	50		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	45		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=50V, I_E=0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=35V, I_B=0$		1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$		0.1	μA
DC Current Gain (CLASSIFICATION OF h_{FE})	h_{FE1}	$V_{CE}=5V, I_C=1mA$	200	1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=5mA$		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$		1	V
Transition frequency	f_T	$V_{CE}=5V, I_C=10mA, f=30MHz$	150		MHz

CLASSIFICATION OF h_{FE}

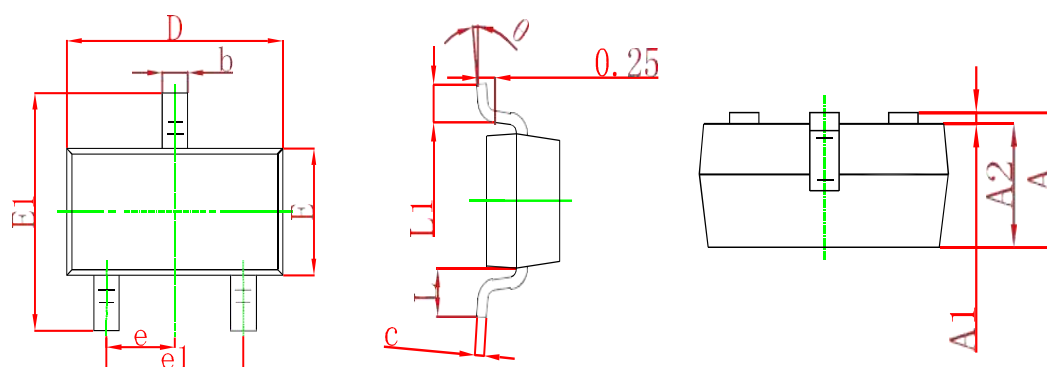
HFE	200-1000	
Rank	L	H
Range	200-450	450-1000

Typical Characteristics



Package Outline Dimensions

SOT-23



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

*Important Usage Information and Disclaimer

The specifications of Zhuhai Hypersemi Co., Ltd. products are not guarantees of product characteristics. They reflect typical performance expected in standard applications, which may vary with specific uses. Users must conduct prior testing for their applications and make necessary adjustments.

Users are responsible for the safety of applications utilizing our products and must implement adequate safety measures to prevent physical injury, fire, or other risks in case of product failure. It is the user's duty to ensure that application designs comply with all applicable laws and standards. Our products must not be used in any applications where a product failure could reasonably result in personal injury, unless specifically authorized in a signed document by Zhuhai Hypersemi Co., Ltd.

No representations or warranties are made regarding the accuracy or completeness of this information, including any claims of non-infringement of third-party intellectual property rights. Zhuhai Hypersemi Co., Ltd. assumes no liability for any applications or uses of its products and does not grant any licenses to its intellectual property rights or those of others. We also make no claims regarding non-infringement of third-party intellectual property rights that may arise from applications.

Due to technical requirements, our products may contain hazardous substances. For details, please contact your nearest sales office. This document replaces all previous information and may be updated. We reserve the right to make changes.