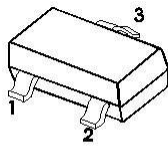


## SOT-23



1. BASE

2. EMITTER

3. COLLECTOR

Marking: 2L

**Features**

Complementary to MMBT5551.

Power Dissipation of 300mW.

High Stability and High Reliability.

**Mechanical Data**

Package Type: SOT-23, Small Outline Plastic Package.

Epoxy UL: 94V-0.

Mounting Position: Any.

**Maximum Ratings & Thermal Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	-160	V
Collector-Emitter Voltage	$V_{CE0}$	-150	V
Emitter -Base Voltage	$V_{EBO}$	-5	V
Collector Current-Continuous	$I_C$	-600	mA
Collector Power Dissipation	$P_C$	300	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55-+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	416	°C/W

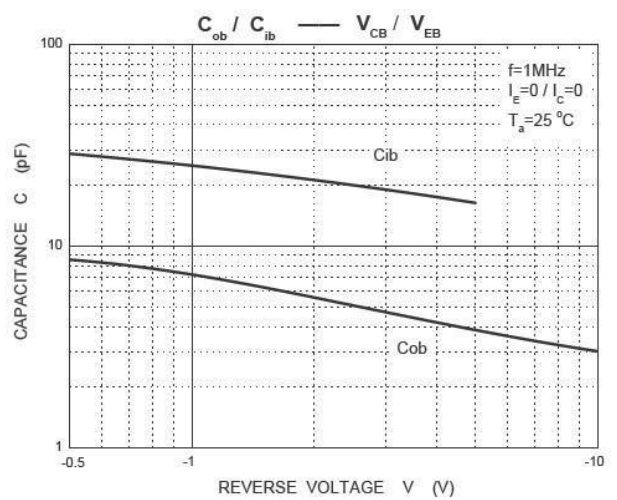
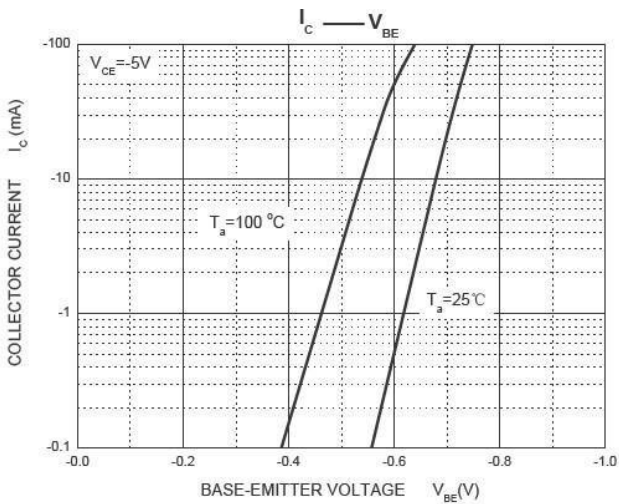
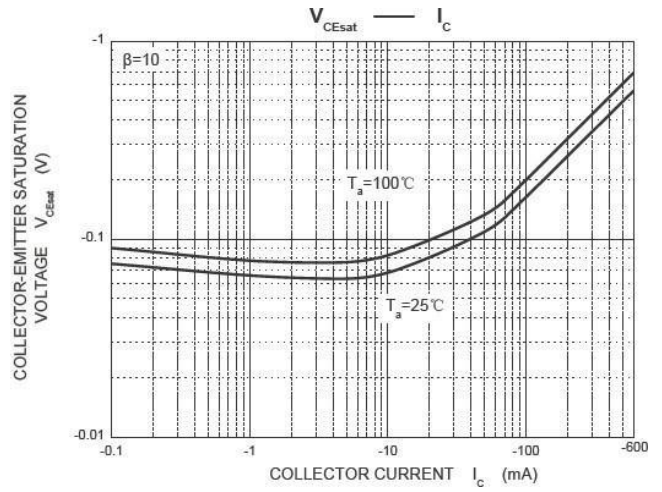
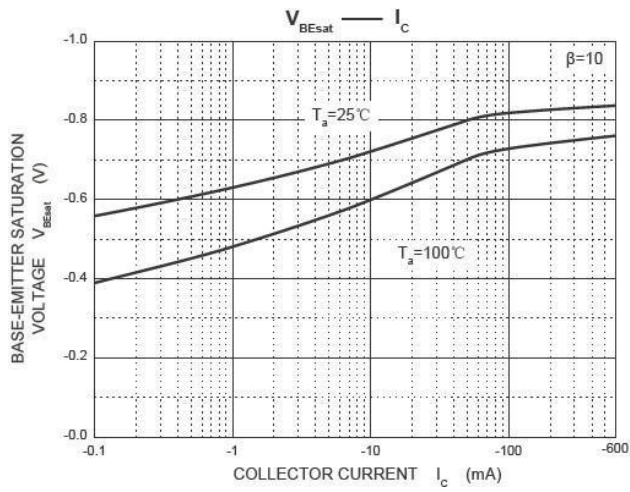
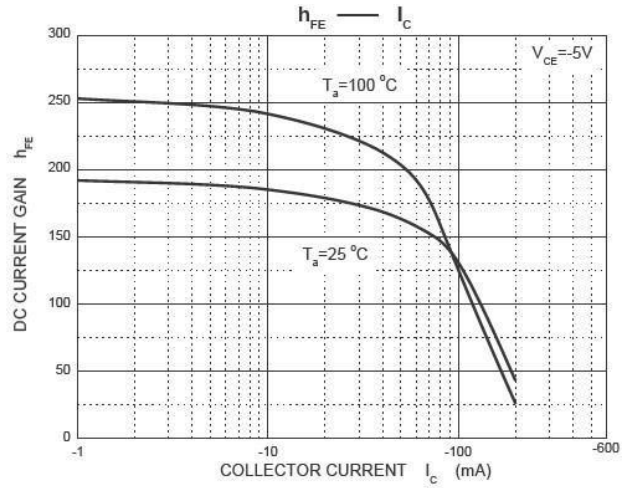
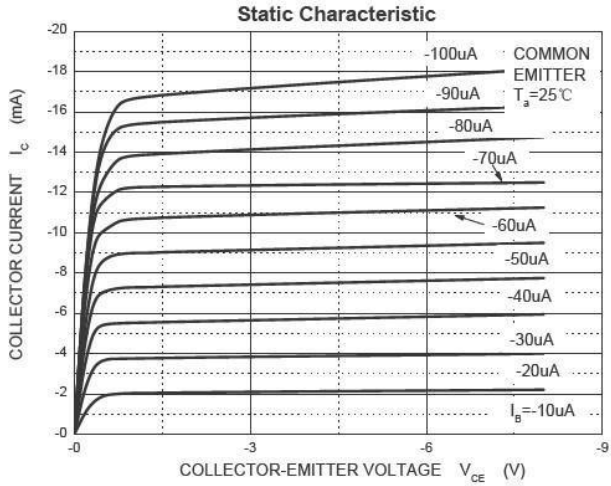
**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified.)

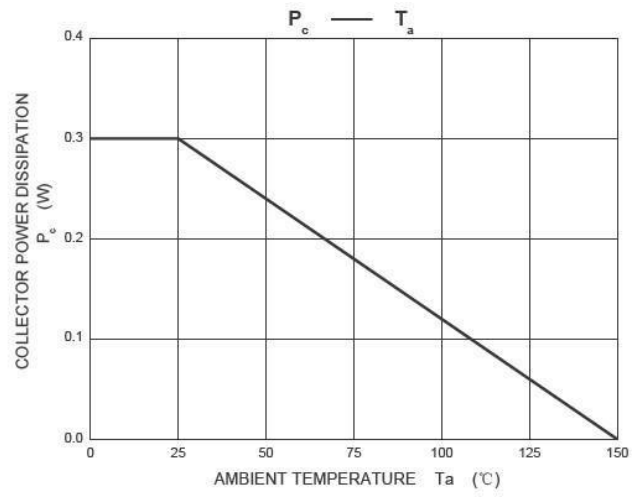
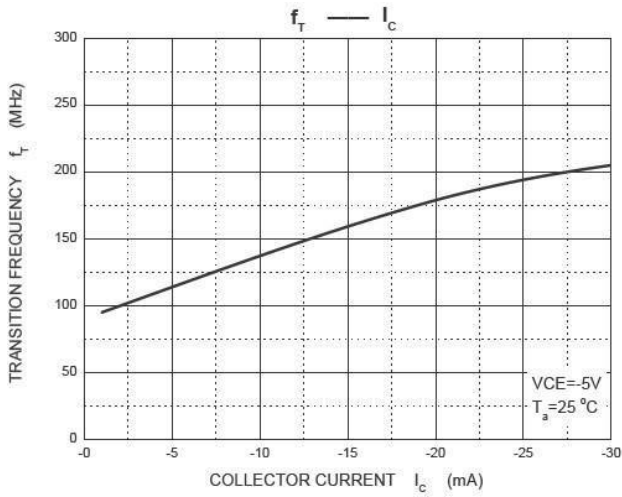
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-160		V
Collector-emitter breakdown voltage	$V_{(BR)CEO} *$	$I_C=-1mA, I_B=0$	-150		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-120V, I_E=0$		-100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-4V, I_C=0$		-100	nA
DC current gain	$h_{FE(1)} *$	$V_{CE}=-5V, I_C=-1mA$	80		
	$h_{FE(2)} *$	$V_{CE}=-5V, I_C=-10mA$	100	300	
	$h_{FE(3)} *$	$V_{CE}=-5V, I_C=-50mA$	30		
Collector-emitter saturation voltage	$V_{CE(sat)1} *$	$I_C=-10mA, I_B=-1mA$		-0.2	V
	$V_{CE(sat)2} *$	$I_C=-50mA, I_B=-5mA$		-0.5	V
Base -emitter saturation voltage	$V_{BE(sat)1} *$	$I_C=-10mA, I_B=-1mA$		-1.00	V
	$V_{BE(sat)2} *$	$I_C=-50mA, I_B=-5mA$		-1.00	V
Transition frequency	$f_T$	$V_{CE}=-5V, I_C=10mA, f=30MHz$	100		MHz

\*Pulse test: pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2.0\%$ **CLASSIFICATION OF  $h_{FE(2)}$** 

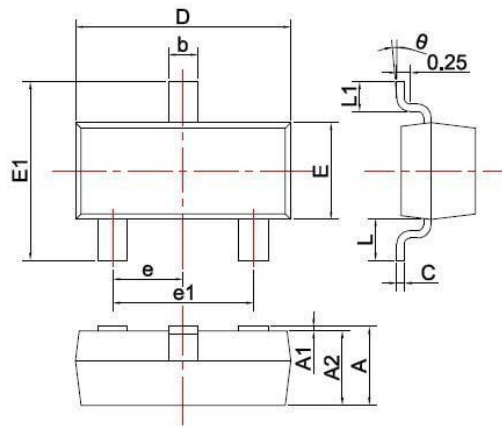
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

Typical characteristics





**SOT-23 PACKAGE OUTLINE** Plastic surface mounted package

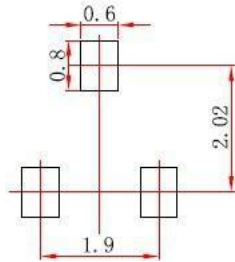


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

**Precautions: PCB Design**

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



- Note:
1. Controlling dimension: In millimeters.
  2. General tolerance: ± 0.05mm.
  3. The pad layout is for reference purposes only.