

GPB8050 Transistor(NPN)

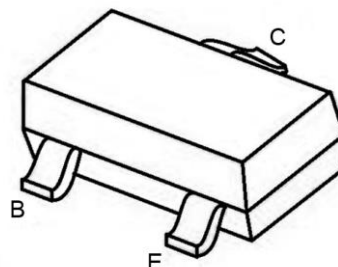
Feature

- Good Current Characters
- Small Saturable Voltage Drop
- High Breakdown Voltage

Marking:



SOT-23



Classification of h_{FE} :

Rank	L	H
Range	120-200	200-350

MAXIMUM RATINGS ($T = 25^{\circ}\text{C}$ unless otherwise noted)

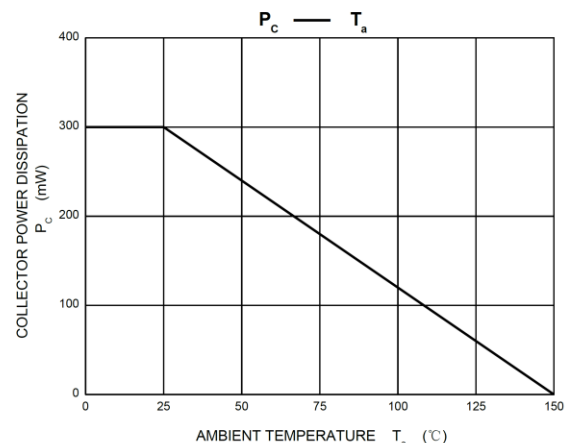
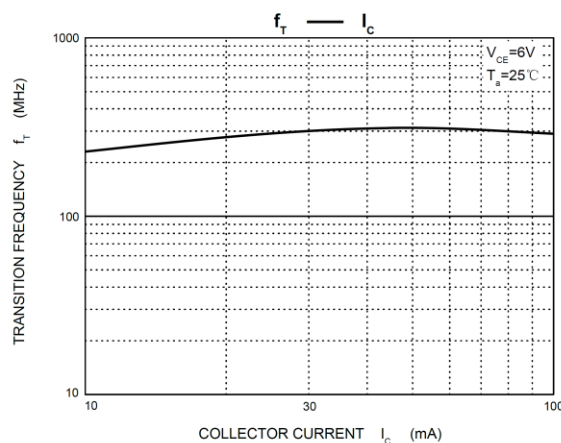
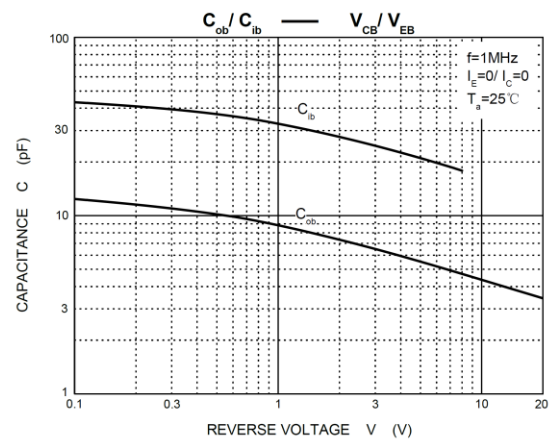
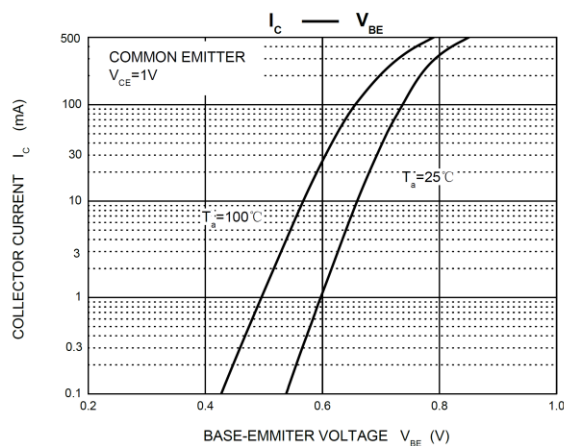
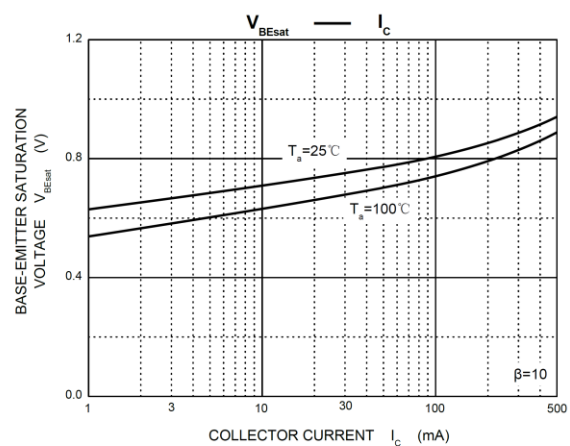
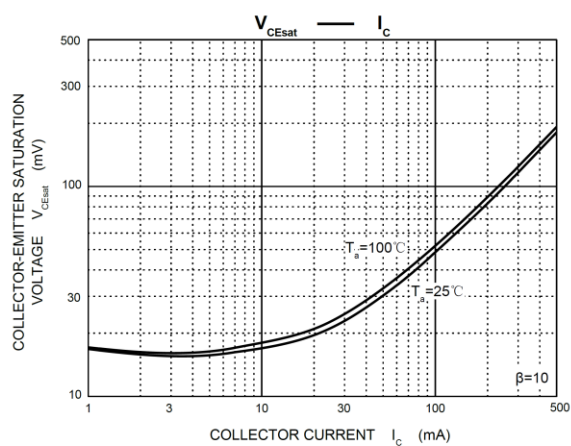
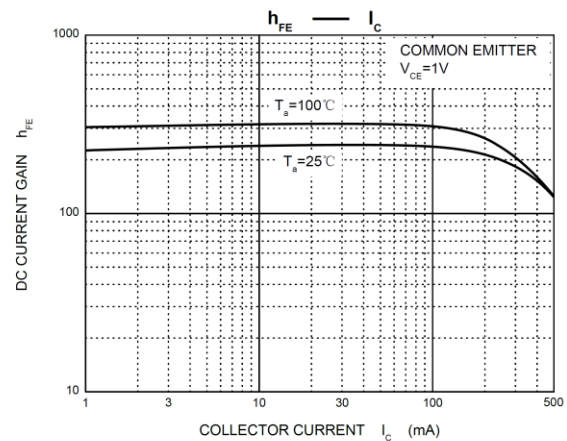
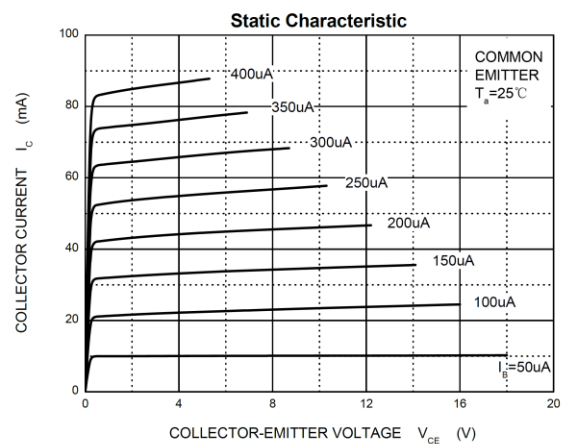
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	0.5	A
Power Dissipation	P_d	0.3	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

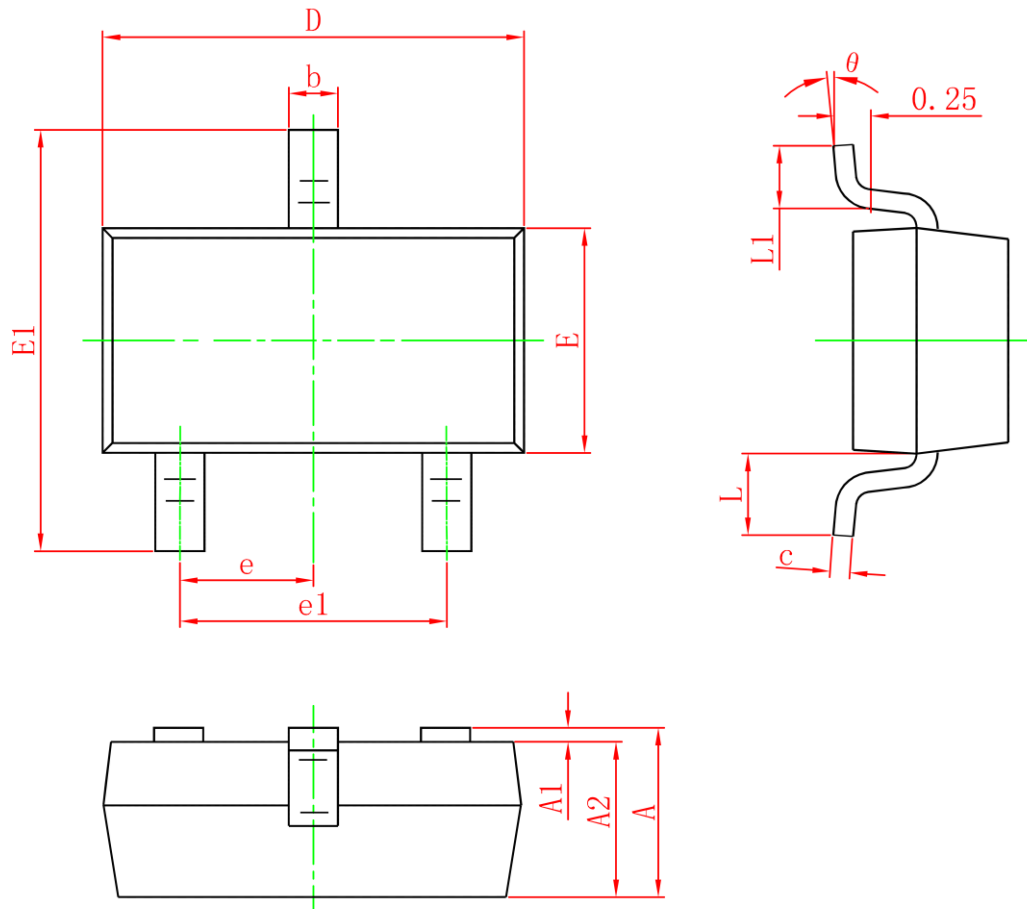
ELECTRICAL CHARACTERISTICS(T =25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	40		V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	25		V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5		V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=40V, I_E=0$		100	nA
Collector Cut-Off Current	I_{CEO}	$V_{CE}=20V, I_B=0$		100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5V, I_C=0$		100	nA
DC Current Gain	h_{FE}	$V_{CE}=1V, I_C=0.1mA$	40		
		$V_{CE}=1V, I_C=1mA$	70		
		$V_{CE}=1V, I_C=50mA$	100	400	
		$V_{CE}=1V, I_C=100mA$	60		
		$V_{CE}=1V, I_C=500mA$	30		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$		0.5	V
		$I_C=500mA, I_B=50mA$		0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$		1.1	V
		$I_C=500mA, I_B=50mA$		1.2	V
Transition Frequency	f_T	$V_{CE}=6V, I_C=20mA, f=30MHz$	150		MHZ
Input Capacitance	C_{IB}	$V_{CB}=5V, I_E=0, f=1MHz$		4.0	pF
Output Capacitance	C_{OB}	$V_{EB}=0.5V, I_C=0, f=1MHz$		8.0	pF
Delay Time	t_d	$V_{CC}=3V, V_{BE}=-0.5V, I_C=10mA, I_B=1.0mA$		35	nS
Rise Time	t_r			35	nS
Storage Time	t_s	$V_{CC}=3V, V_{BE}=-0.5V, I_{B1}=I_{B2}=1.0mA$		200	nS
Fall Time	t_f			50	nS

*Pulse Test : Pulse width<300Us , Duty Cycle < 2.0%.

Typical Characteristics



SOT-23 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0	0.100	0	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	1.150	1.500	0.045	0.059
E1	2.250	2.650	0.089	0.104
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Attention:

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
- Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.
- GreenPower Electronics products belong to consumer electronics or other civilian electronic products.