

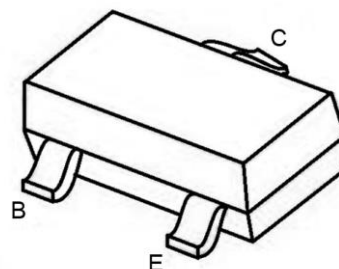
GPB42 Transistor(NPN)

Feature

- For Switching and Amplifier Applications
- Complementary PNP Type Available(GPB92)

Marking: 1D

SOT-23



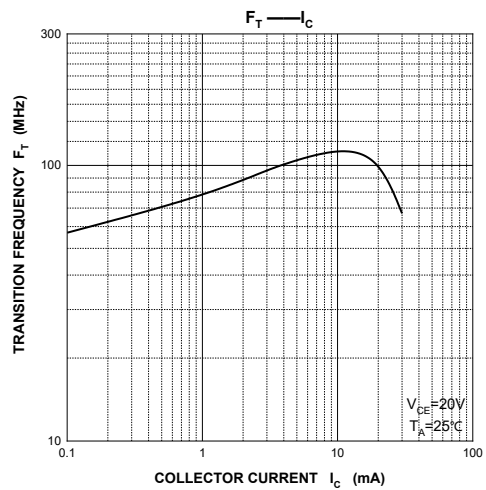
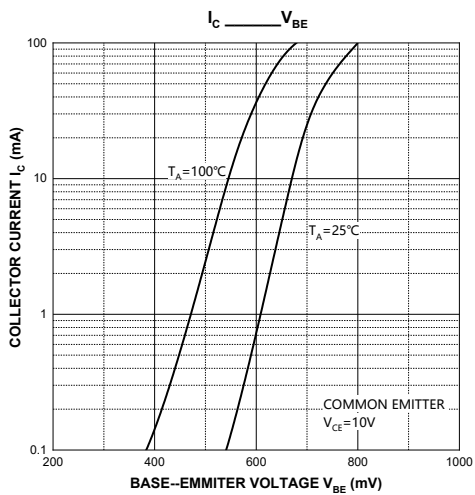
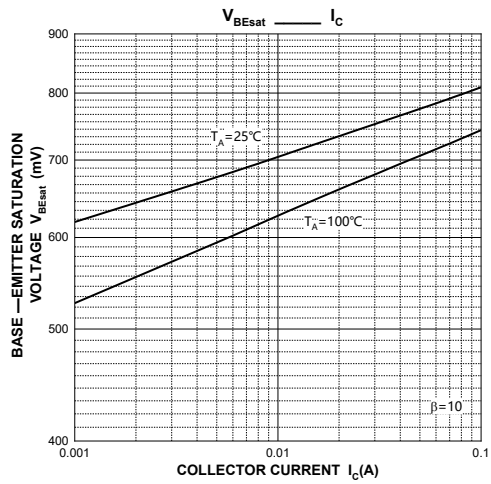
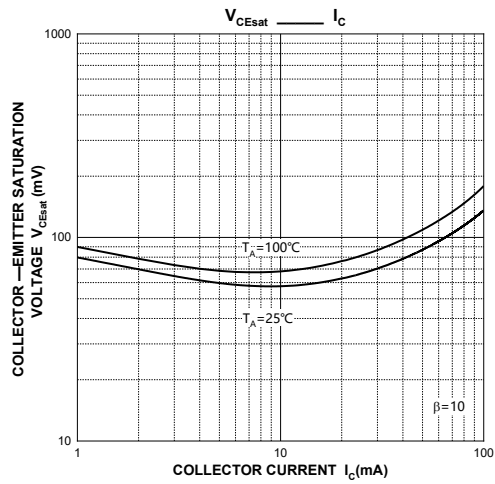
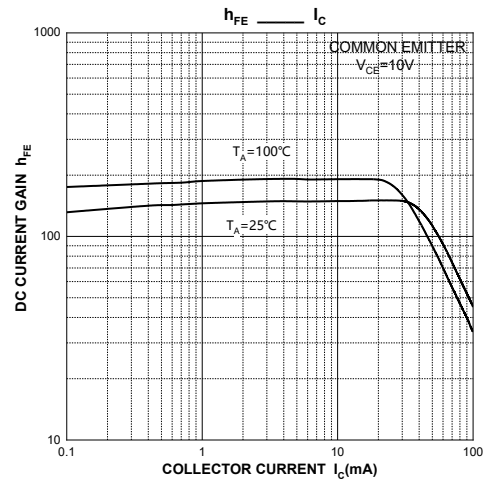
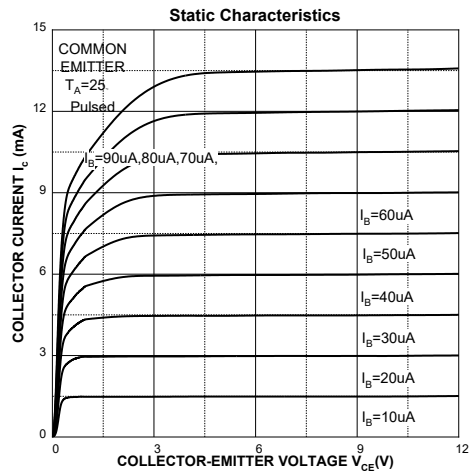
MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

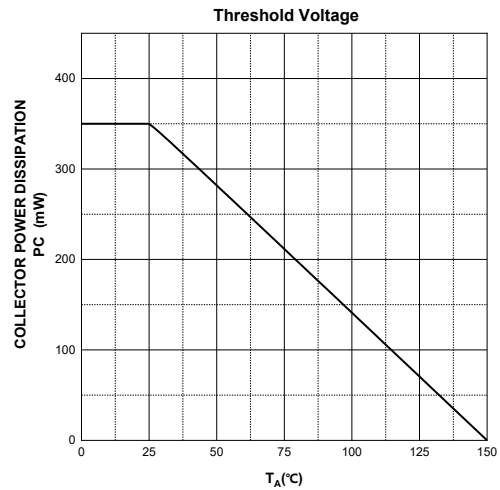
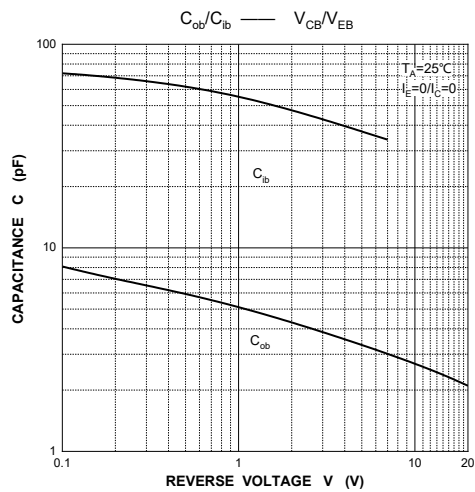
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	300	V
Collector-Emitter Voltage	V _{CEO}	300	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current -Continuous	I _C	0.3	A
Power Dissipation	P _d	0.35	W
Thermal Resistance, Junction to Ambient	R _{θJA}	357	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

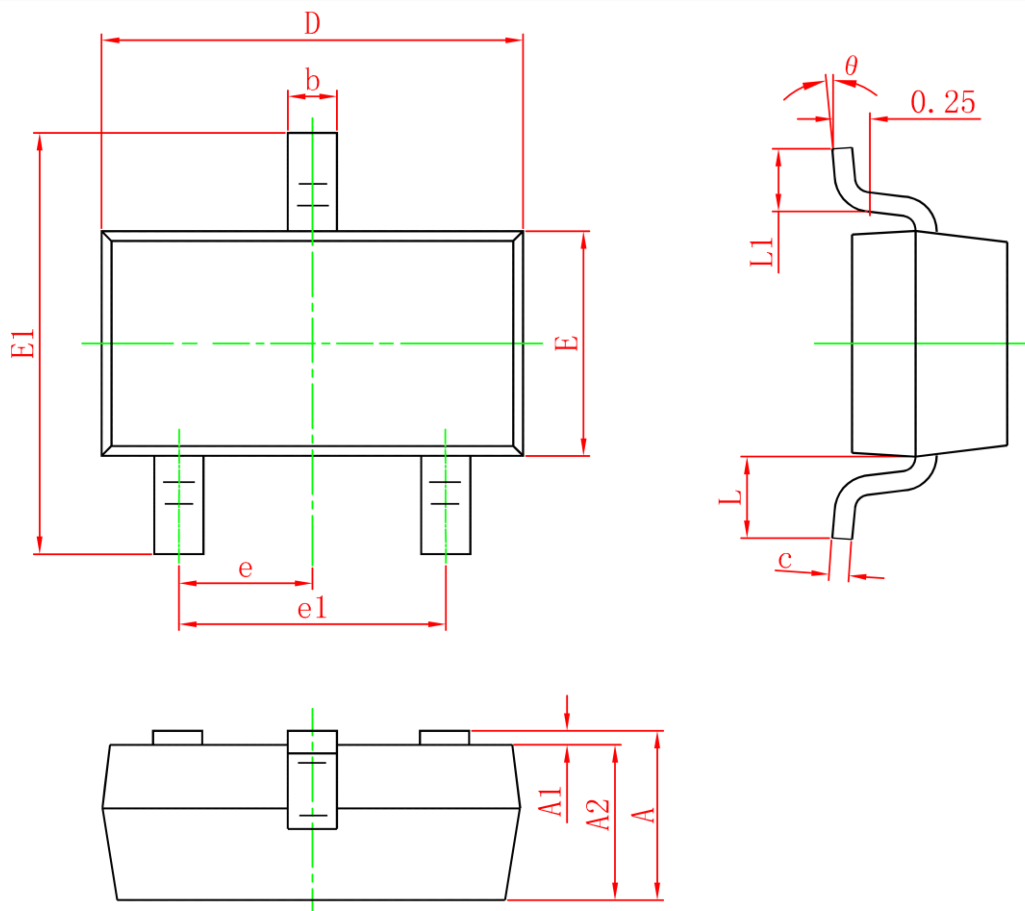
ELECTRICAL CHARACTERISTICS(T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C = 100μA, I _E = 0	300		V
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 1mA, I _B = 0	300		V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E = 100μA, I _C = 0	5		V
Collector Cut-Off Current	I _{CBO}	V _{CB} = 200V, I _E = 0		250	nA
Emitter Cut-Off Current	I _{EBO}	V _{EB} = 5V, I _C = 0		100	nA
DC Current Gain	h _{FE}	V _{CE} = 10V, I _C = 1mA	60		
		V _{CE} = 10V, I _C = 10mA	100	200	
		V _{CE} = 10V, I _C = 30mA	60		
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C = 20mA, I _B = 2mA		0.2	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C = 20mA, I _B = 2mA		0.9	V
Transition Frequency	f _T	V _{CE} = 20V, I _C = 10mA, f = 30MHz	50		MHZ

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.
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