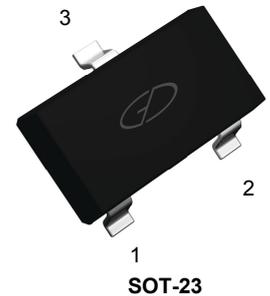


Features

- Darlingon Amplifier

1. BASE
2. EMITTER
3. COLLECTOR



Absolute Maximum Ratings

(T_A=25°C unless otherwise noted)

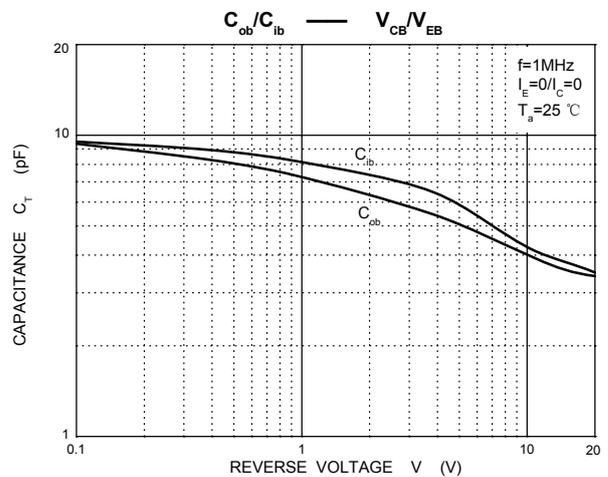
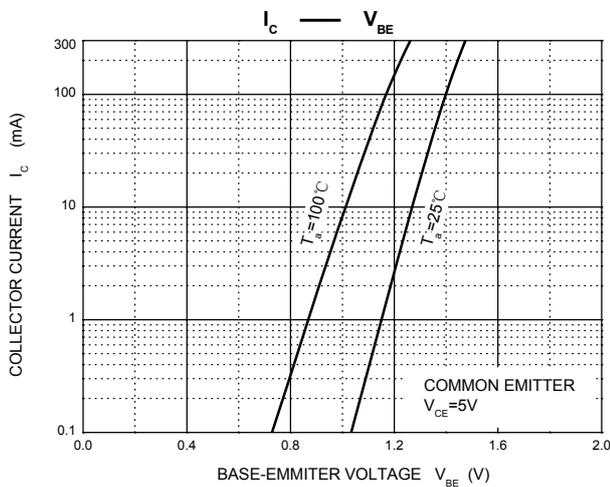
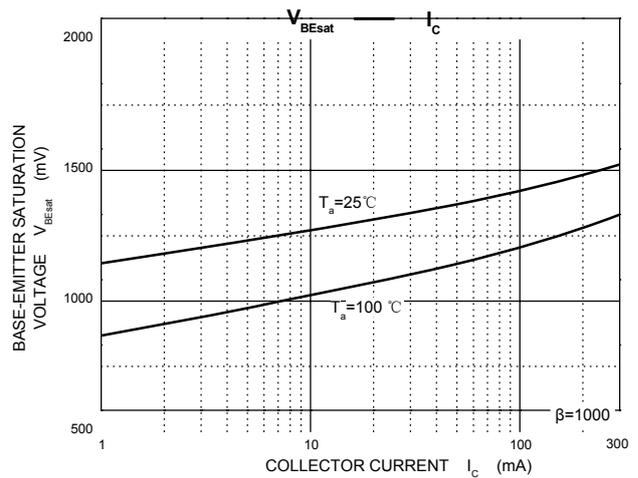
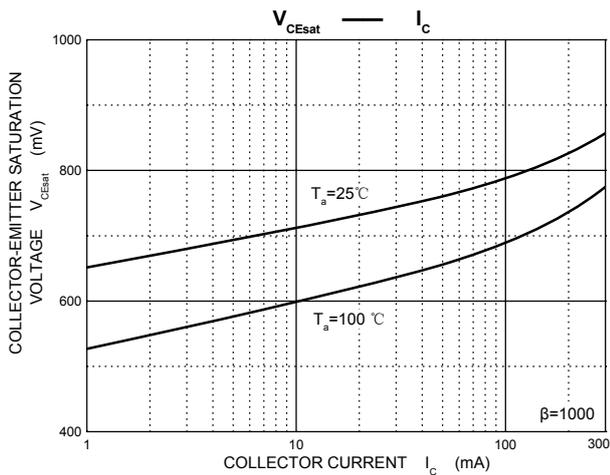
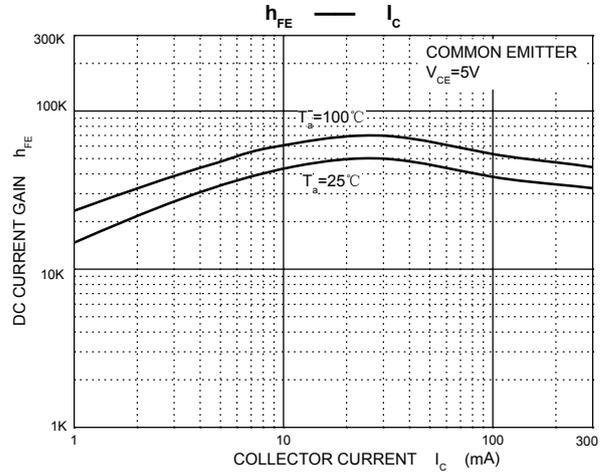
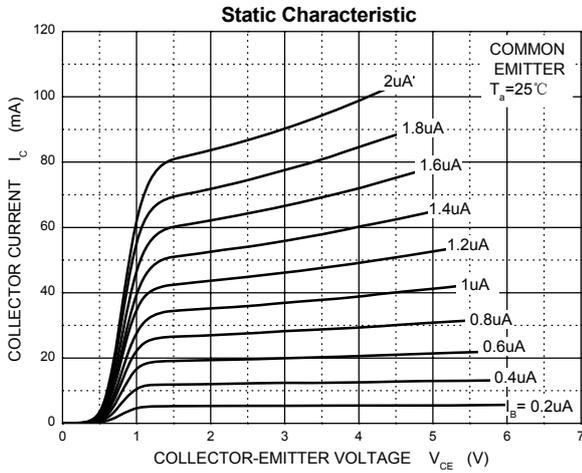
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	30	V
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Base Voltage	V _{EBO}	10	V
Collector Current -Continuous	I _C	0.3	A
Collector Power Dissipation	P _C	300	mW
Thermal Resistance from Junction to Ambient	R _{θJA}	417	°C/W
Junction Temperature	T _J	-55 to +150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

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

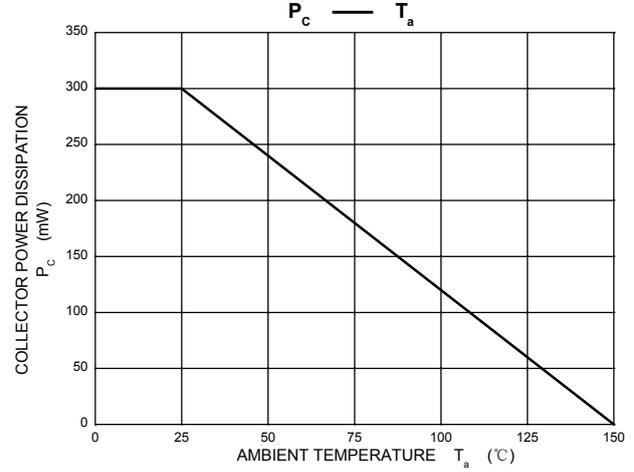
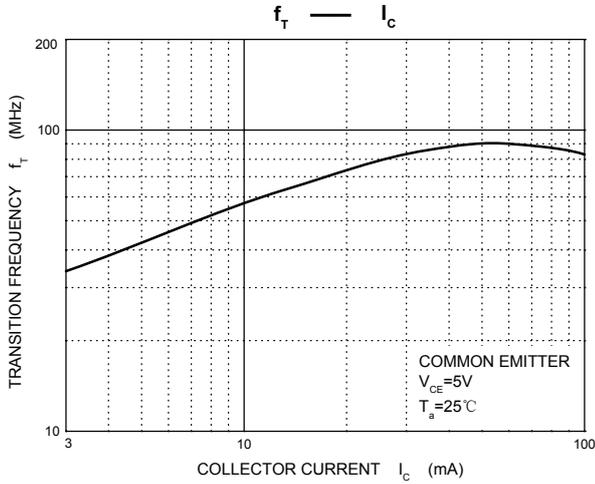
Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C = 100μA, I _E =0	30	-	V
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 100μA, I _B =0	-	-	V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E = 100μA, I _C =0	10	-	V
Collector Cut-off Current	I _{CB0} *	V _{CB} =30 V, I _E =0	-	0.1	μA
Emitter Cut-off Current	I _{EBO} *	V _{EB} = 10V, I _C =0	-	0.1	μA
DC Current Gain	h _{FE(1)} *	V _{CE} =5V, I _C = 10mA	10000	-	
	h _{FE(2)} *	V _{CE} =5V, I _C = 100mA	20000	-	
Collector-Emitter Saturation Voltage	V _{CE(sat)} *	I _C =100mA, I _B =0.1mA	-	1.5	V
Base-Emitter Saturation Voltage	V _{BE(sat)} *	I _C =100mA, I _B =0.1mA	-	2	V
Base-Emitter Voltage	V _{BE} *	V _{CE} =5V, I _C = 100mA	-	2.0	V
Transition Frequency	f _T	V _{CE} =5V, I _C = 10mA f=100MHz	125	-	MHz
Collector Output Capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz	-	12	pF

* Pulse Test : pulse width≤300μs, duty cycles≤2%.

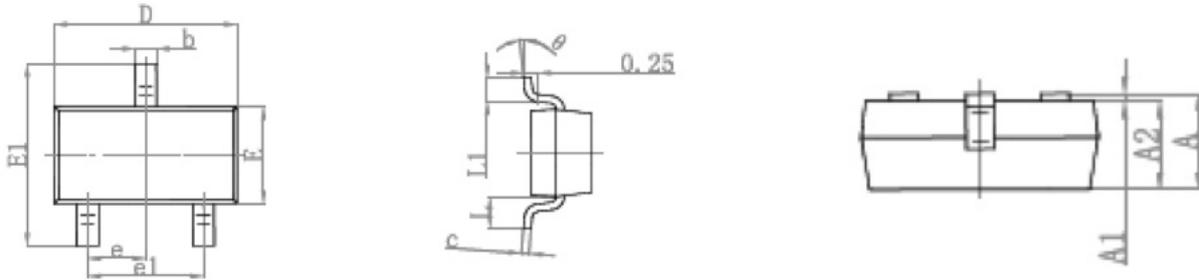
Typical Electrical Characteristic Curves



Typical Electrical Characteristic Curves

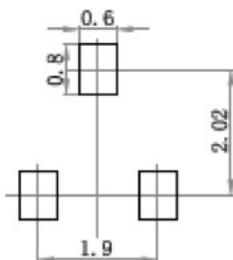


Package Outline Dimensions SOT-23



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 $^\circ$	8 $^\circ$	0 $^\circ$	8 $^\circ$

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.