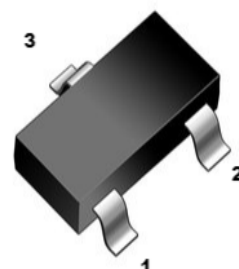




1. Features

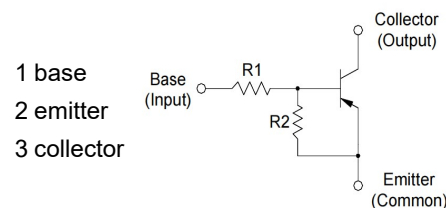
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

SOT-23



2. Mechanical Data

- Case: Molded Plastic, SOT-23 .
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking: 14
- Mounting Position : Any.



3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Supply voltage	V_{CC}	-50	V
Input voltage	V_{IN}	-40 ~ +10	V
Output current	I_O	-50	mA
	$I_{C(MAX)}$	-100	mA
Power dissipation	P_D	200	mW
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

4. Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Characteristics	Symbol	Condition	Min	TYP	Max	Unit
Input voltage	$V_{I(off)}$	$V_{CC}=-5V, I_O=-100\mu A$	-0.5	-	-	V
Input voltage	$V_{I(on)}$	$V_O=0.3V, I_O=10\text{ mA}$	-	-	-3	V
Output voltage	$V_{O(on)}$	$I_O/I_I=-10\text{mA}/-0.5\text{mA}$	-	-	-0.3	V
Input current	I_I	$V_I=-5V$	-	-	-0.88	mA
Output current	$I_{O(off)}$	$V_{CC}=-50V, V_I=0$	-	-	-0.5	μA
DC current gain	G_I	$V_O=-5V, I_O=-5\text{mA}$	30	-	-	-
Input resistance	R_1	-	7	10	13	K Ω
Resistance ratio	R_2/R_1	-	0.8	1	1.2	-
Transition frequency	f_T	$V_O=-10V, I_O=-5\text{mA}, f=100\text{MHz}$	-	250	-	MHz



5. Rating And Characteristic Curves

Fig.1 ON Characteristics

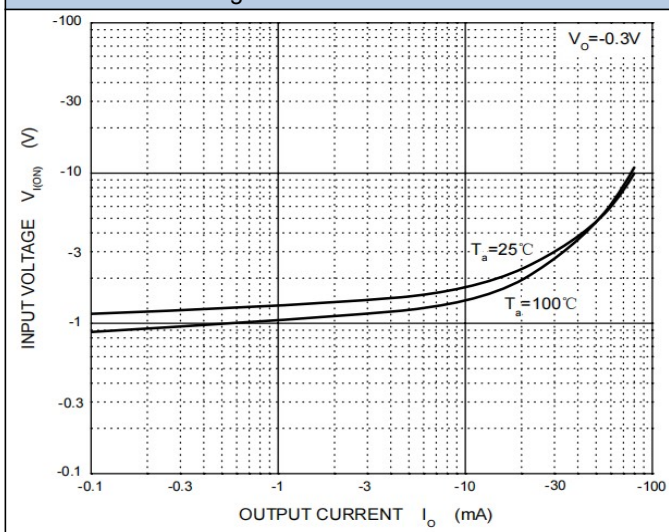


Fig.2 OFF Characteristics

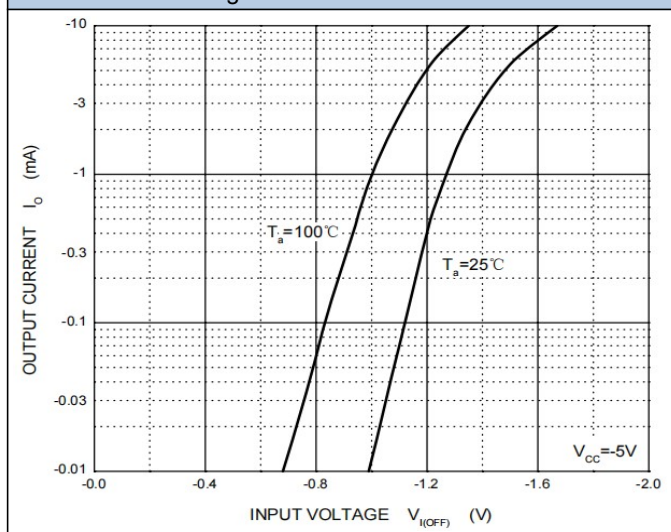


Fig.3 G_I - I_O

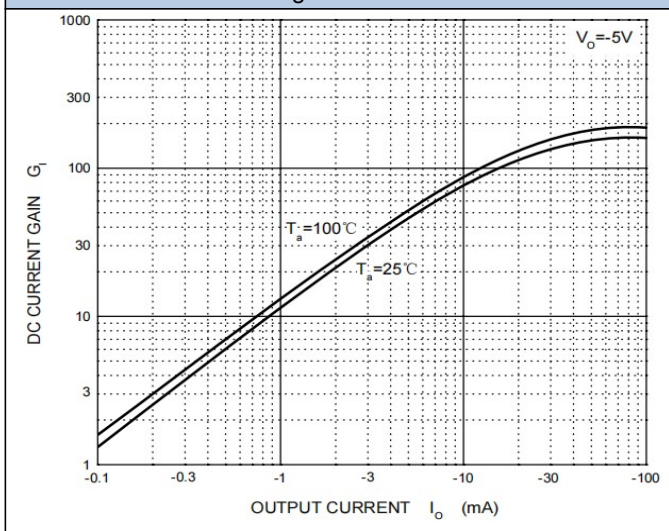


Fig.4 V_{O(ON)} - I_O

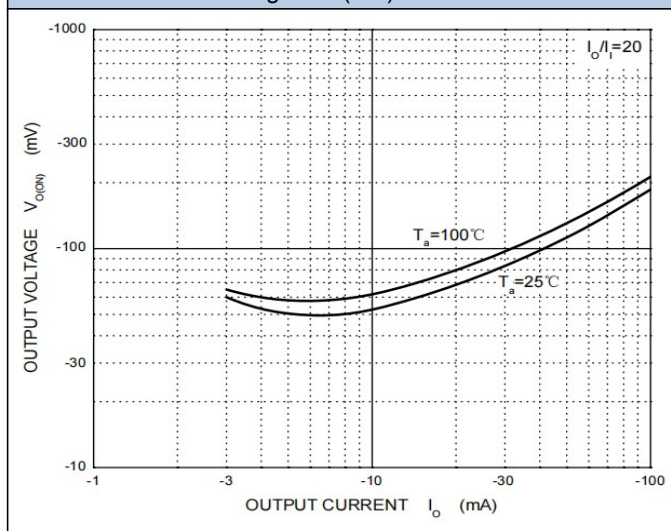


Fig.5 C_O - V_R

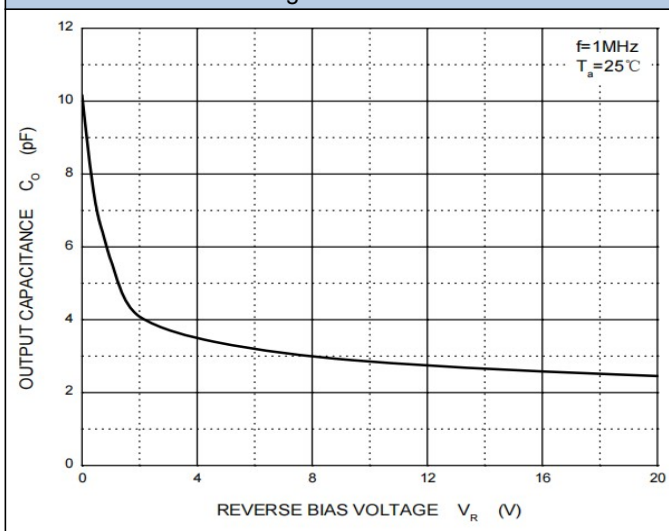
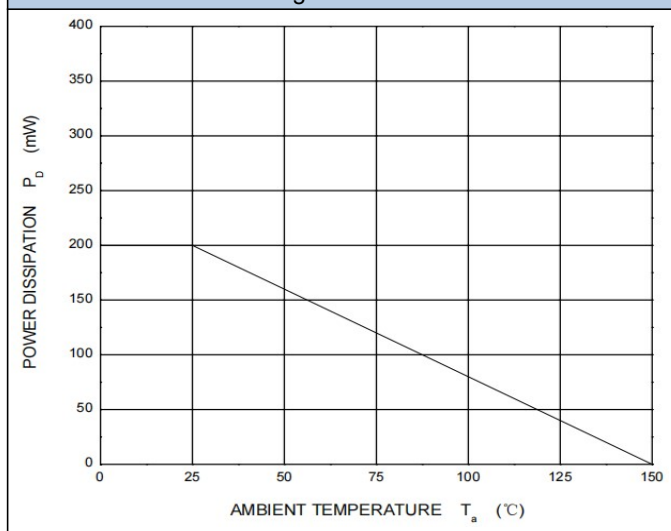
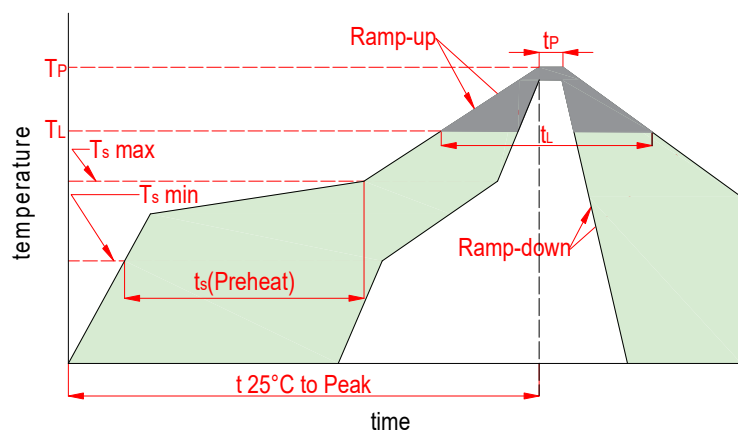


Fig.6 P_D - T_a



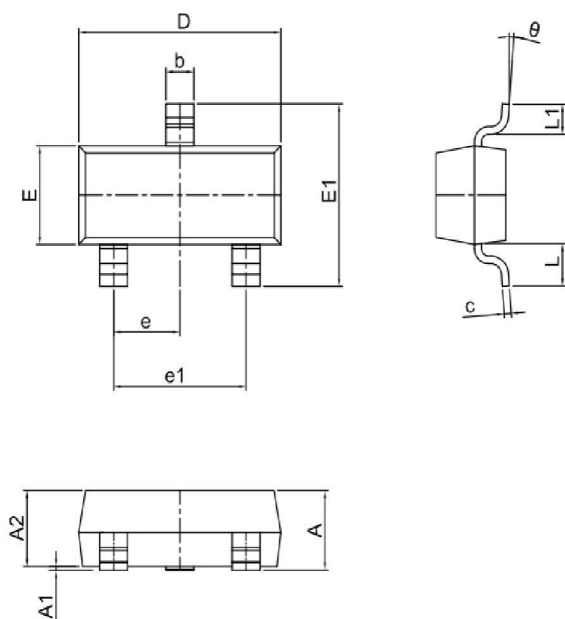


6. Soldering Parameters



Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150°C
	Temp. max(T_s (min))	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
T_s (max) to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp. (T_L)(Liquidus)	217°C
	Temp. (t_L)(Liquidus)	60~150s
Peak Temp. (T_P)		260 ^{+0/-5} °C
Time within actual peak Temp. (t_p)		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Tempe. (T_P)		8 minutes max
Do not exceed		260°C

7. Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.035	0.055	0.900	1.400
A1	0.000	0.004	0.000	0.100
A2	0.035	0.051	0.900	1.300
b	0.012	0.020	0.300	0.500
c	0.003	0.007	0.080	0.190
D	0.106	0.122	2.700	3.100
E	0.047	0.065	1.200	1.650
E1	0.087	0.118	2.200	3.000
e	0.035	0.040	0.890	1.020
e1	0.070	0.080	1.780	2.040
L1	0.008	0.020	0.200	0.500



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