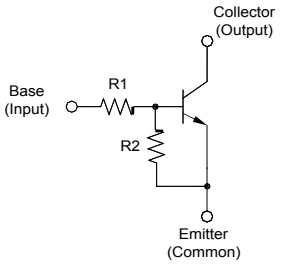
MMDTC143ZUA

NPN Silicon

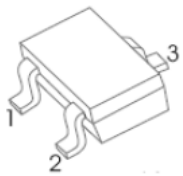
Features

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

MARKING: E23



SOT-323



1. BASE
2. EMITTER
3. COLLECTOR

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	50	V
Input Voltage	V_I	- 5 to + 30	V
Collector Current	I_C	100	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 10 mA	h_{FE}	80	-	-	-
Collector Base Cutoff Current at V_{CB} = 50 V	I_{CBO}	-	-	0.5	µA
Emitter Base Cutoff Current at V_{EB} = 5 V	I_{EBO}	-	-	1.8	mA
Collector Emitter Saturation Voltage at I_C = 5 mA, I_B = 0.25 mA	$V_{CE(sat)}$	-	-	0.3	V
Input on Voltage at V_{CE} = 0.3 V, I_C = 5 mA	$V_{I(on)}$	-	-	1.3	V
Input off Voltage at V_{CE} = 5 V, I_C = 100 µA	$V_{I(off)}$	0.5	-	-	V
Transition frequency at V_{CE} = 10 V, $-I_E$ = 5 mA, f = 100 MHz	f_T	-	250	-	MHz
Input Resistance	R_1	3.29	4.7	6.11	KΩ
Resistance Ratio	R_2 / R_1	8	10	12	-

Typical Characteristics

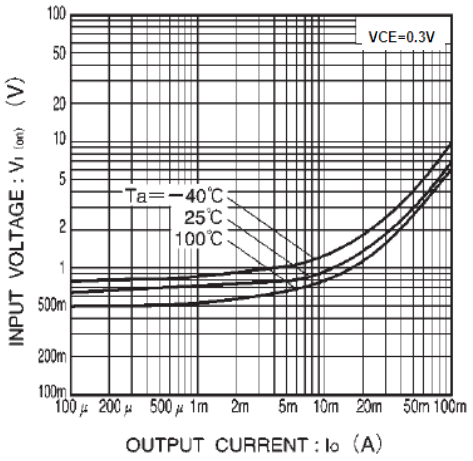


Fig.1 Input voltage vs. output current (ON characteristics)

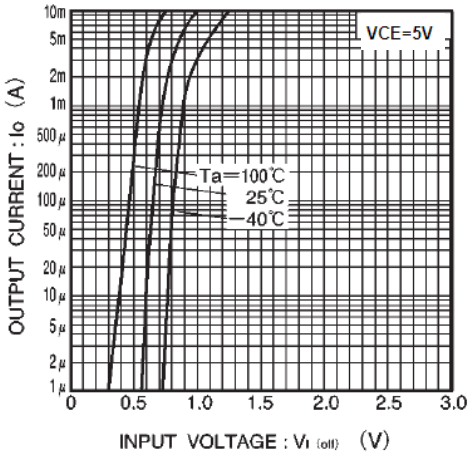


Fig.2 Output current vs. input voltage (OFF characteristics)

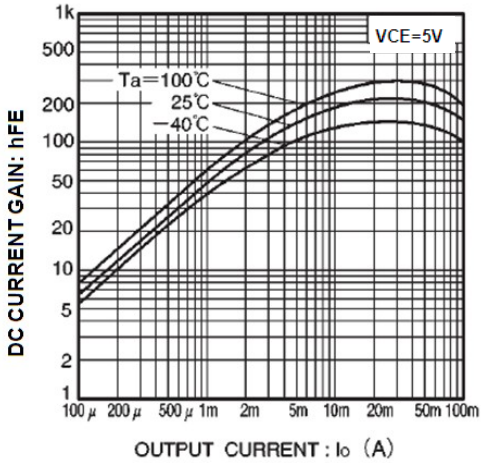


Fig.3 DC current gain vs. output current

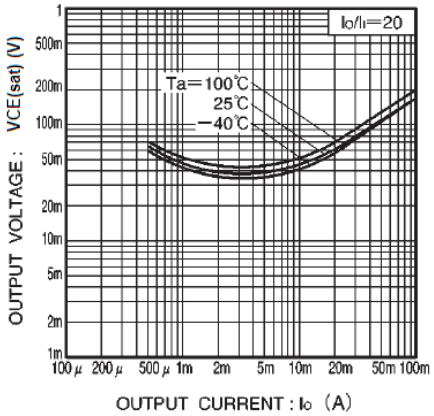


Fig.4 Output voltage vs. output current