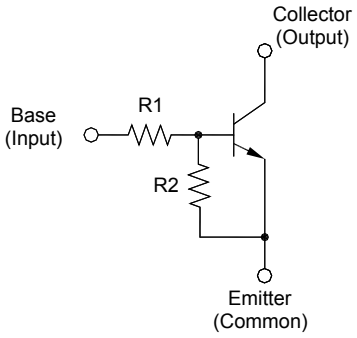
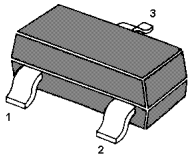
MMDTC141

NPN Silicon Epitaxial Planar Transistor

for high current switching, interface circuit and driver circuit application.





1. Base 2. Emitter 3. Collector

TO-236 Plastic Package

Feature

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

Resistance Values

Type	R1 (KΩ)	R2 (KΩ)
MMDTC141	10	10

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	- 10 to + 40	V
Collector Current	I_C	100	mA
Total 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 = 5 mA	h_{FE}	30	-	-	-
Collector Base Cutoff Current at V_{CB} = 50 V	I_{CBO}	-	-	500	nA
Emitter Base Cutoff Current at V_{EB} = 5 V	I_{EBO}	-	-	880	µA
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 0.5 mA	V_{CEsat}	-	-	0.3	V
Input Off Voltage at V_{CE} = 5 V, I_C = 0.1 mA	$V_{I(off)}$	0.5	-	-	V
Input On Voltage at V_{CE} = 0.3 V, I_C = 10 mA	$V_{I(on)}$	-	-	3	V
Transition Frequency at V_{CE} = 10 V, I_E = 5 mA, f = 100 MHz	f_T [1)]	-	250	-	MHz

[1)] Characteristic of transistor only.

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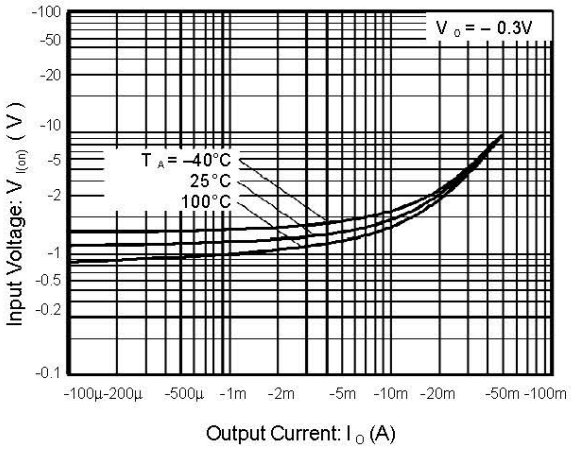
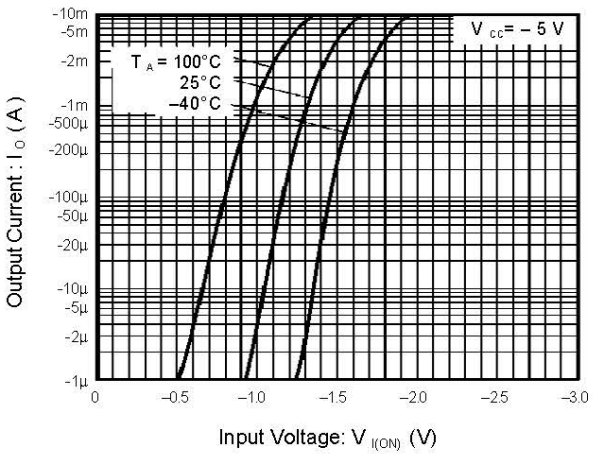
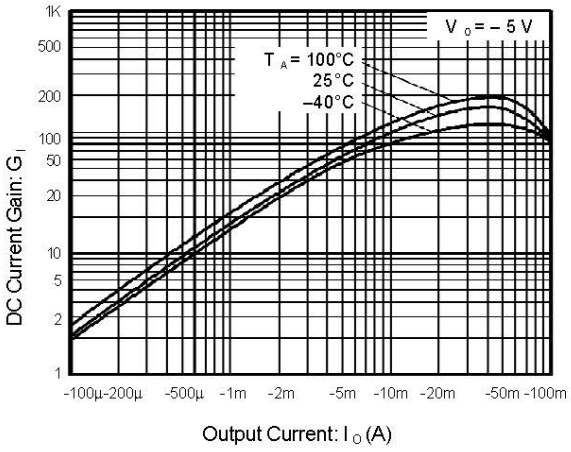

V O = – 0.3V
T A = –40°C
25°C
100°C
Input Voltage: V I(on) (V)
Output Current: I O (A)


V CC = – 5 V
T A = 100°C
25°C
–40°C
Output Current : I O (A)
Input Voltage: V I(ON) (V)


V O = – 5 V
T A = 100°C
25°C
–40°C
DC Current Gain: G I
Output Current: I O (A)