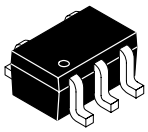
EPITAXIAL PLANAR NPN/PNP TRANSISTOR

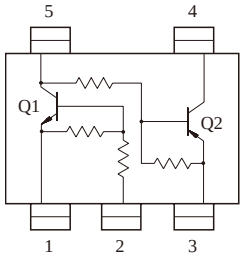


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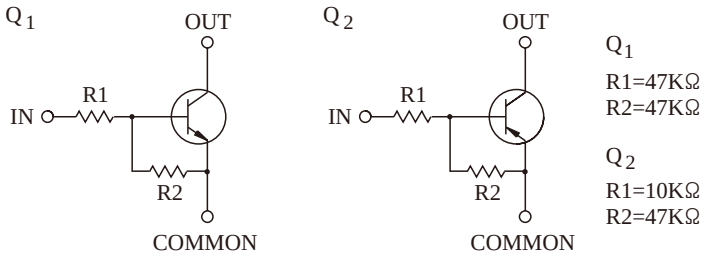
Features

- Including two devices in USV.
  (Ultra Supermini type with 5 leads.)
- With Built-in bias resistors.
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.
- We declare that the material of product compliance with RoHS requirements.

EQUIVALENT CIRCUIT (TOP VIEW)



EQUIVALENT CIRCUIT



Q_1
R1=47KΩ
R2=47KΩ

Q_2
R1=10KΩ
R2=47KΩ

ORDERING INFORMATION

Device	Marking	Shipping
UMC4N	BM	3000 Tape & Reel

Q1 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Output Voltage	V_O	50	V
Input Voltage	V_I	40, -10	V
Output Current	I_O	100	mA

Q2 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Output Voltage	V_O	-50	V
Input Voltage	V_I	-30, 6	V
Output Current	I_O	-100	mA

Q1 Q2 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P_D *	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃

* Total Raing.

Q1 ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Output Cut-off Current	$I_{O(OFF)}$	V_O=50V, V_I=0	-	-	500	nA
DC Current Gain	G_I	V_O=5V, I_O=10mA	80	200	-	
Output Voltage	$V_{O(ON)}$	I_O=10mA , I_I=0.5mA	-	0.1	0.3	V
Input Voltage (ON)	$V_{I(ON)}$	V_O=0.2V, I_O=5mA	-	2.8	5.0	V
Input Voltage (OFF)	$V_{I(OFF)}$	V_O=5V, I_O=0.1mA	1.0	1.2	-	V
Transition Frequency	f_T *	V_O=10V, I_O=5mA	-	200	-	MHz
Input Current	I_I	V_I=5V	-	-	0.18	A

Note : * Characteristic of Transistor Only.

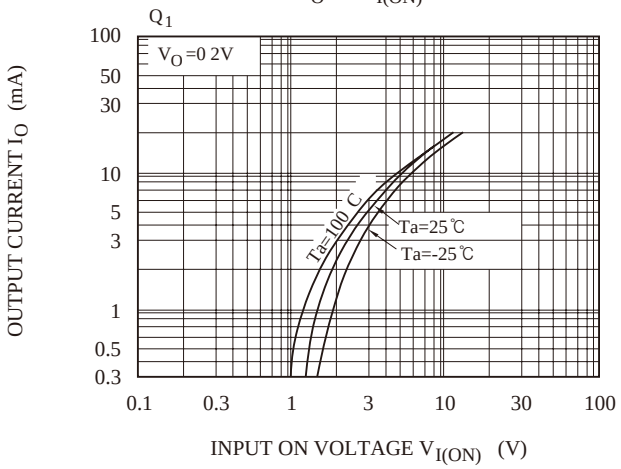
Q2 ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	$I_{O(OFF)}$	V_O=-50V, V_I=0	-	-	-500	nA
DC Current Gain	G_I	V_O=-5V, I_O=-10mA	80	150	-	
Output Voltage	$V_{O(ON)}$	I_O=-10mA , I_I=-0.5mA	-	-0.1	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	V_O=-0.2V, I_O=-5mA	-	-1.2	-1.8	V
Input Voltage (OFF)	$V_{I(OFF)}$	V_O=-5V, I_O=-0.1mA	-0.5	-0.75	-	V
Transition Frequency	f_T *	V_O=-10V, I_O=-5mA	-	200	-	MHz
Input Current	I_I	V_I= -5V	-	-	-0.88	A

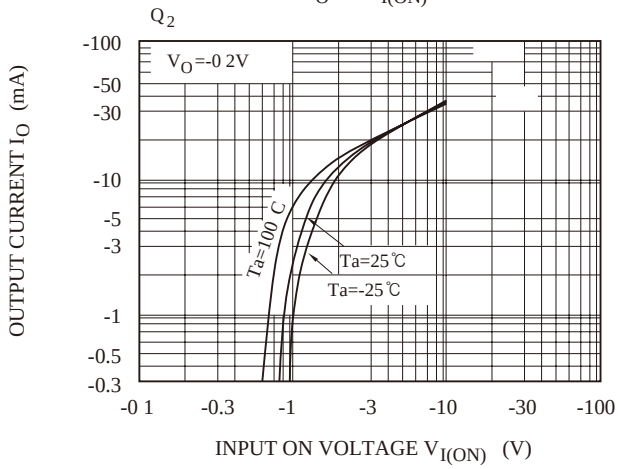
Note : * Characteristic of Transistor Only

TYPICAL ELECTRICAL CHARACTERISTICS

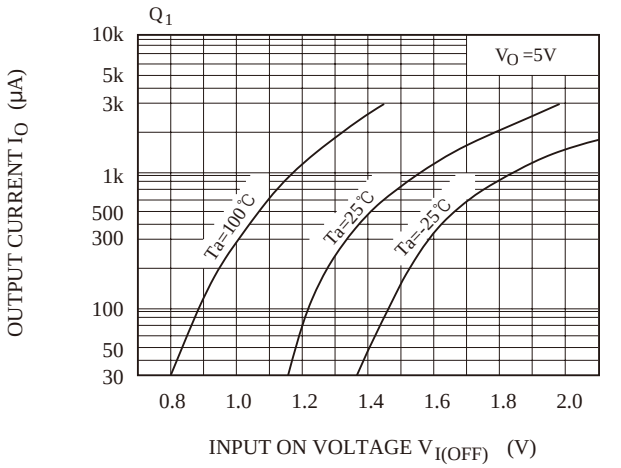
I_O - $V_{I(ON)}$



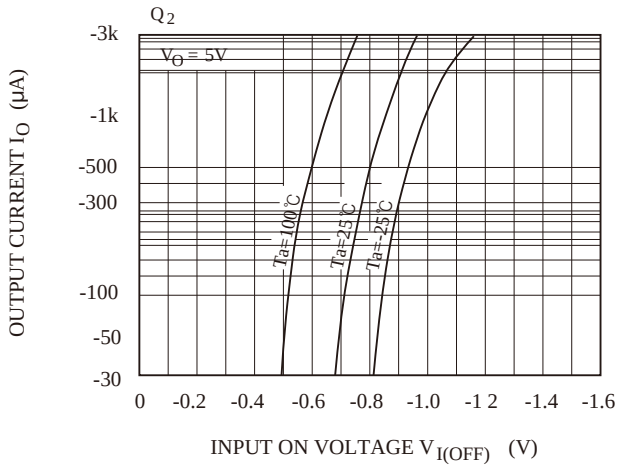
I_O - $V_{I(ON)}$



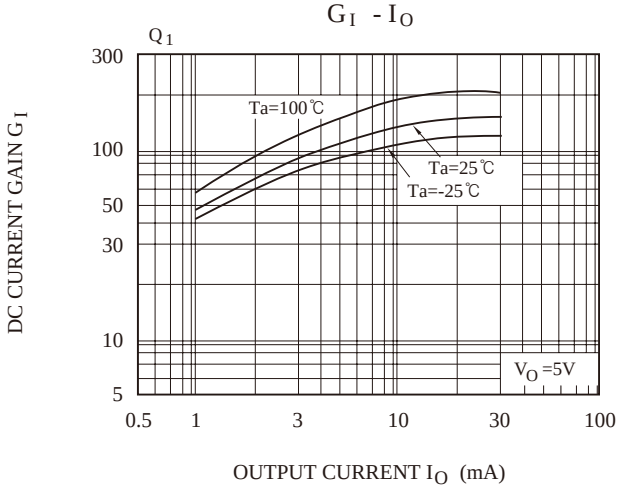
I_O - $V_{I(OFF)}$



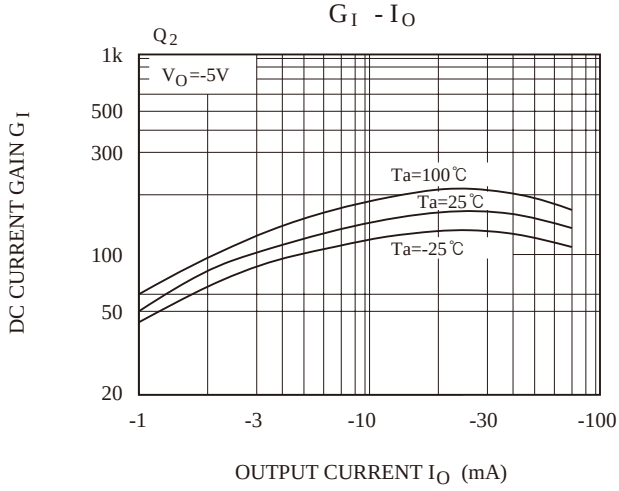
I_O - $V_{I(OFF)}$



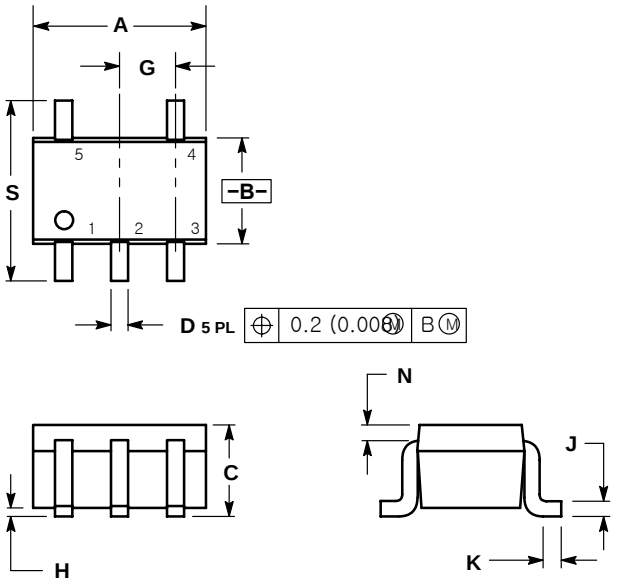
G_I - I_O



G_I - I_O



SC−88A/SOT−353



NOTES:
1. D MENSIONING AND TOLERANC NG PER ANSI Y14 5M, 1982.
2. CONTROLLING D MENSION: NCH.
3. 419A−01 OBSOLETE. NEW STANDARD 419A−02.
4. D MENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	−−−	0.004	−−−	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

SOLDERING FOOTPRINT*

