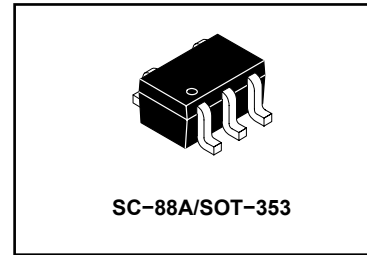


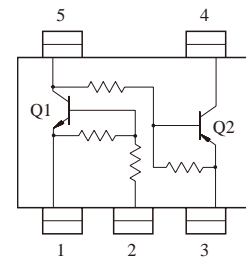
# EPITAXIAL PLANAR NPN/PNP TRANSISTOR

### Features

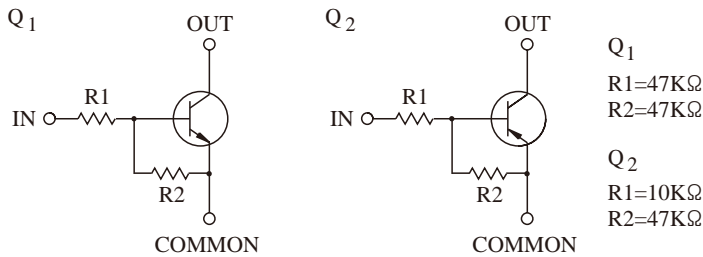
- Including two devices in USV.  
(Ultra Supermini type with 5 leads.)
- With Built-in bias resistors.
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.
- We declare that the material of product compliance with RoHS requirements.



### EQUIVALENT CIRCUIT (TOP VIEW)



### EQUIVALENT CIRCUIT



### ORDERING INFORMATION

Device	Marking	Shipping
UMC4N	BM	3000 Tape & Reel

### Q1 MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Output Voltage	V <sub>O</sub>	50	V
Input Voltage	V <sub>I</sub>	40, -10	V
Output Current	I <sub>O</sub>	100	mA

### Q2 MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Output Voltage	V <sub>O</sub>	-50	V
Input Voltage	V <sub>I</sub>	-30, 6	V
Output Current	I <sub>O</sub>	-100	mA

### Q1 Q2 MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P <sub>D</sub> *	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ 150	°C

\* 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

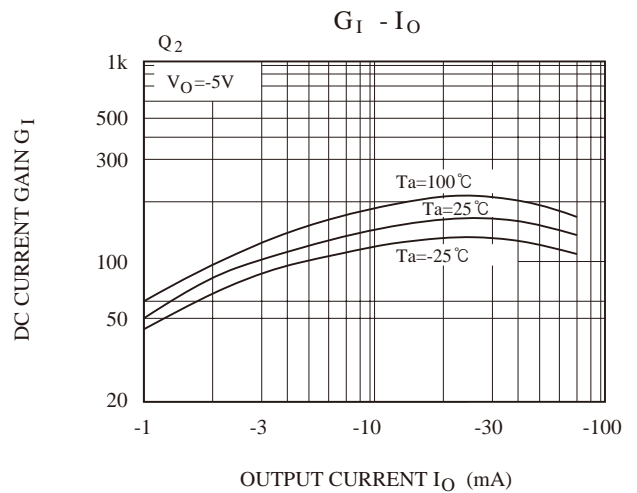
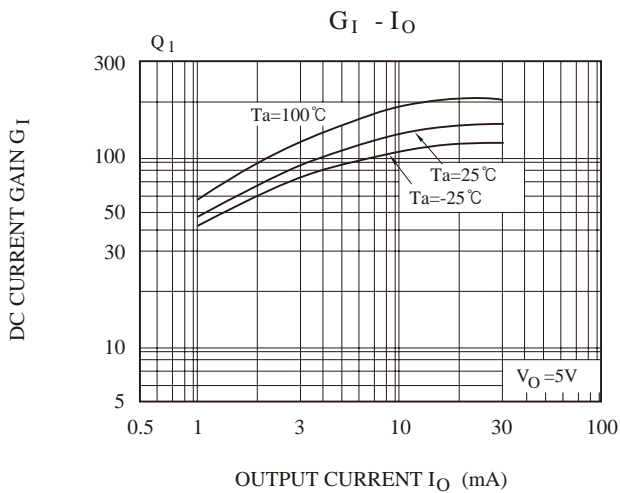
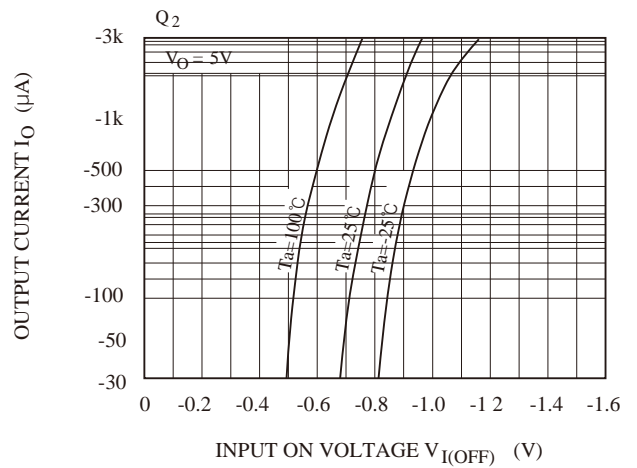
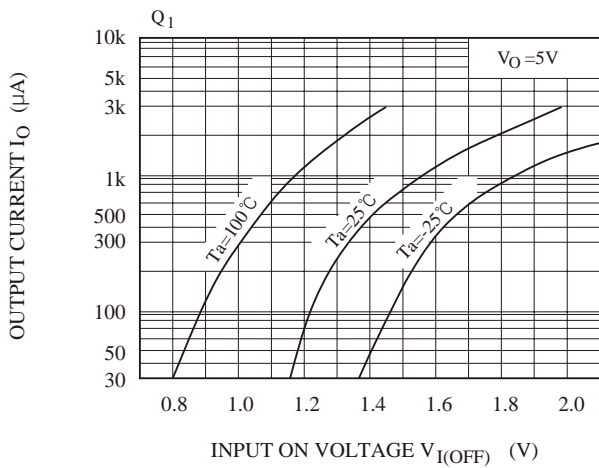
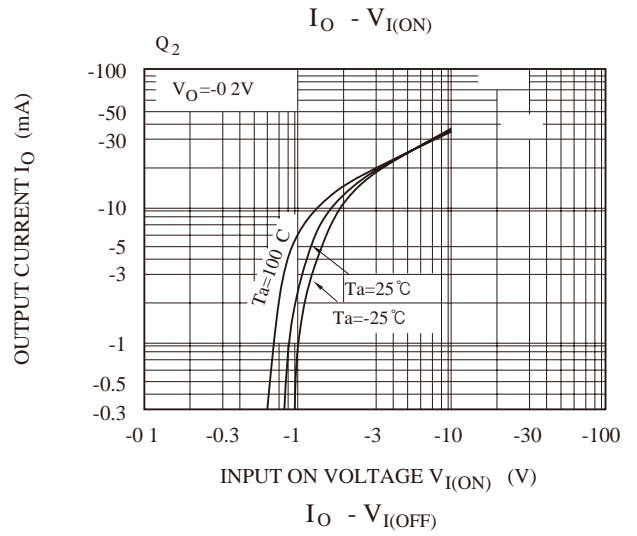
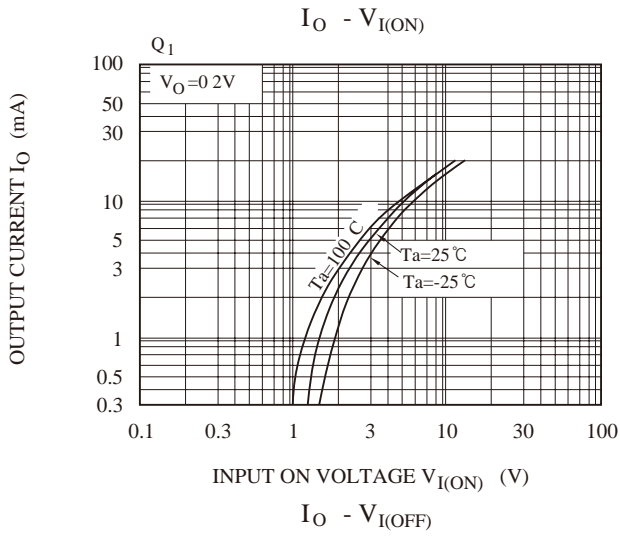
Note : \* Characteristic of Transistor Only.

## Q2 ELECTRICAL CHARACTERISTICS (Ta=25°C)

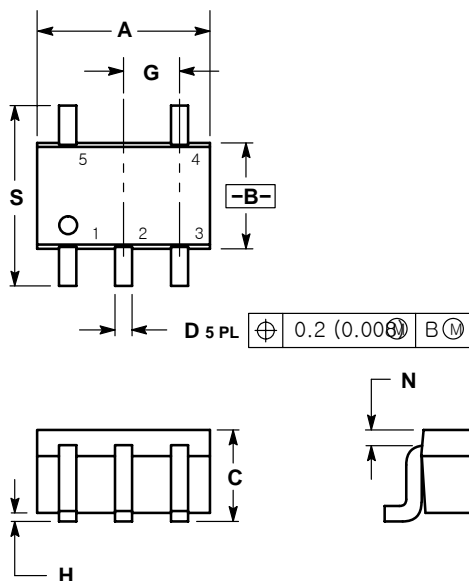
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	$I_{O(OFF)}$	$V_O=-50V, V_I=0$	-	-	-500	nA
DC Current Gain	$G_I$	$V_O=-5V, I_O=-10mA$	80	150	-	
Output Voltage	$V_{O(ON)}$	$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O=-0.2V, I_O=-5mA$	-	-1.2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



# SC-88A/SOT-353



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: NCH.
  3. 419A-01 OBSOLETE. NEW STANDARD 419A-02.
  4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

DIM	INCHES		MILLIMETERS	
	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\*

