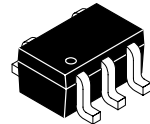


# EPITAXIAL PLANAR NPN/PNP TRANSISTOR

**LRX102UT1G  
S-LRX102UT1G**

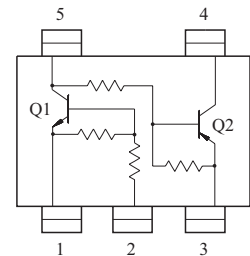


SC-88A/SOT-353

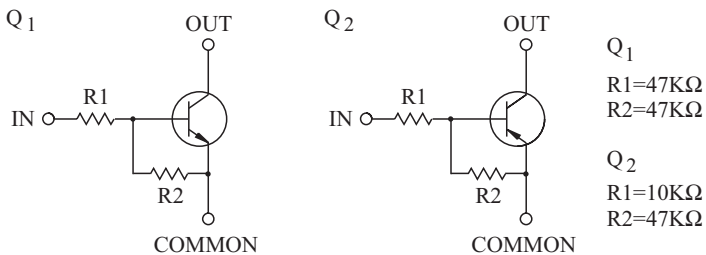
## Features

- Including two devices in USV.  
(UltraSuperminitypewith5leads.)
- 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.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

## EQUIVALENT CIRCUIT (TOP VIEW)



## EQUIVALENT CIRCUIT



## ORDERING INFORMATION

Device	Marking	Shipping
LRX102UT1G	BM	3000 Tape & Reel
LRX102UT3G	BM	10000 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.

**LRX102UT1G;S-LRX102UT1G**

**Q1 ELECTRICAL CHARACTERISTICS (Ta=25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Collector–Base Breakdown Voltage	$V_{BR(CBO)}$	$I_C = 10\mu A, I_E = 0$	50	-	-	V
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	mA

Note : \* Characteristic of Transistor Only.

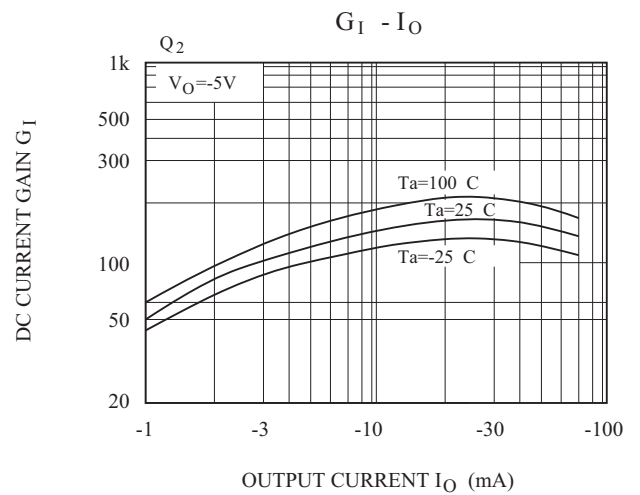
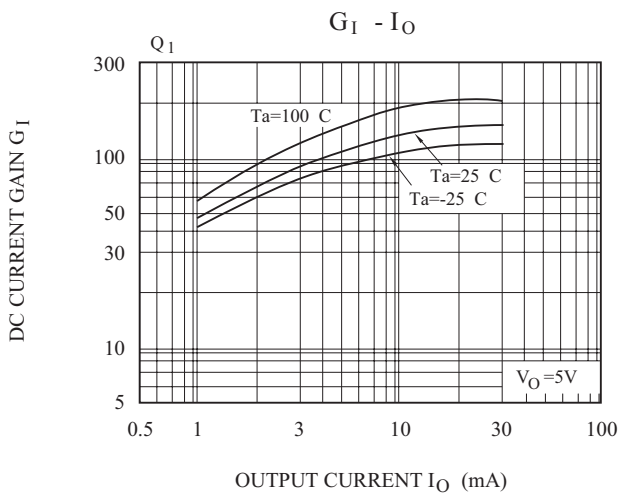
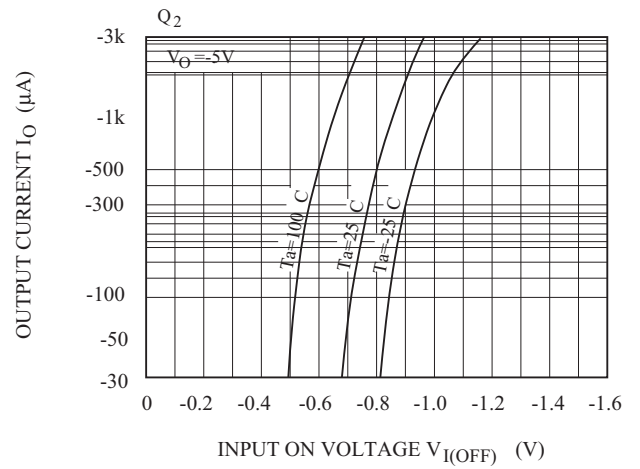
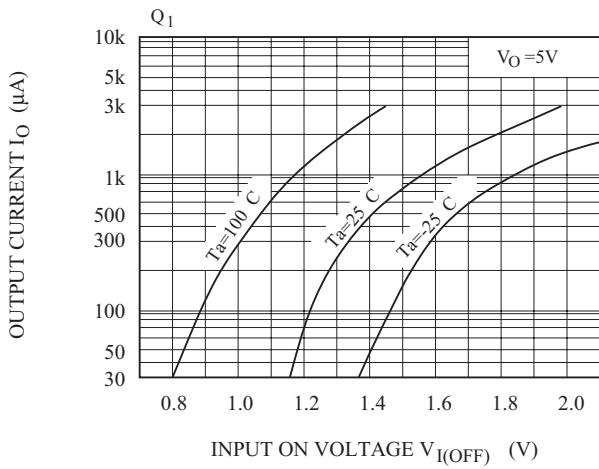
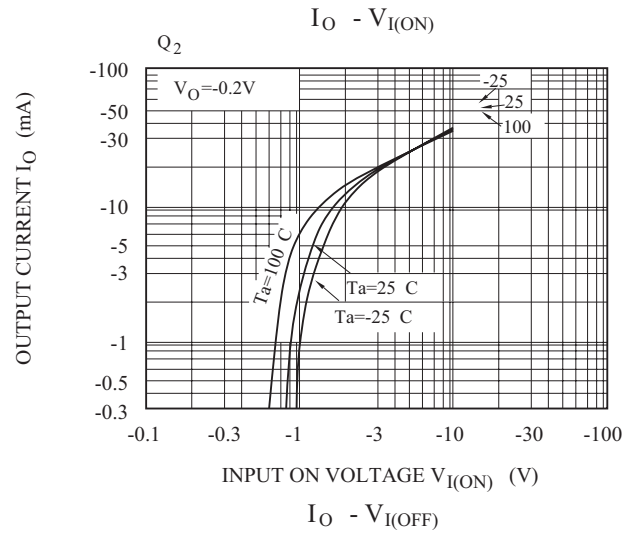
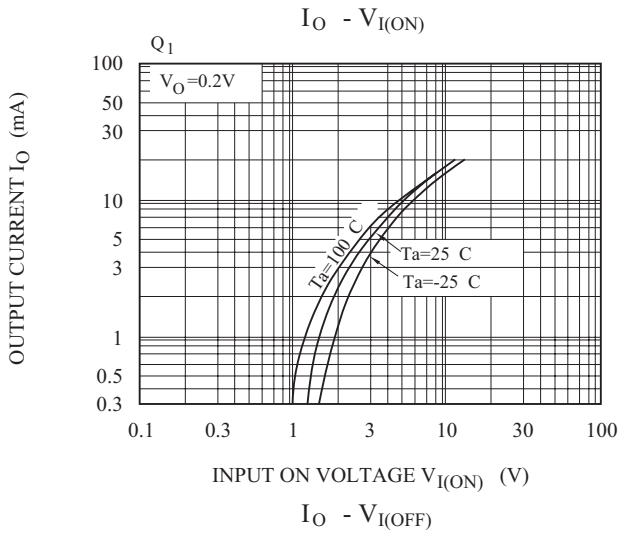
**Q2 ELECTRICAL CHARACTERISTICS (Ta=25°C)**

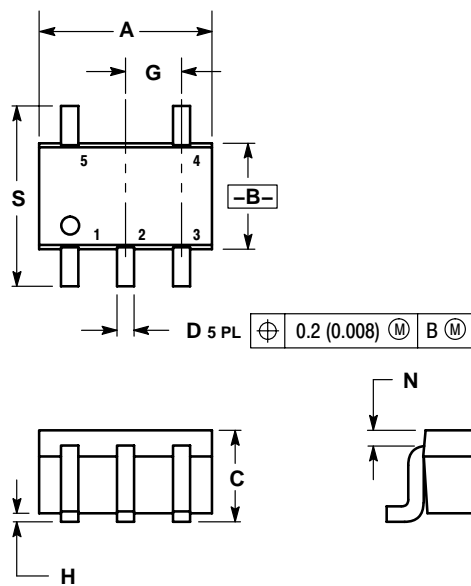
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Collector–Base Breakdown Voltage	$V_{BR(CBO)}$	$I_C = -10\mu A, I_E = 0$	-50	-	-	V
Output Cut-off Current	$I_{O(OFF)}$	$V_O = -50V, V_I = 0$	-	-	-500	nA
DC Current Gain	$G_I$	$V_O = -5V, I_O = -10mA$	80	150	-	
Output Voltage	$V_{O(ON)}$	$I_O = -10mA, I_I = -0.5mA$	-	-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	mA

Note : \* Characteristic of Transistor Only.

LRX102UT1G;S-LRX102UT1G

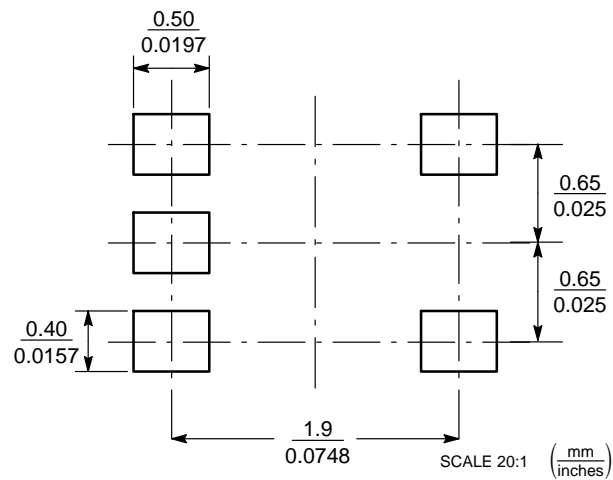
TYPICAL ELECTRICAL CHARACTERISTICS



**SC-88A/SOT-353**

**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
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\***


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[NSVB1706DMW5T1G](#) [NSBC143EDP6T5G](#) [RN2101,LF\(CT](#) [NSBA144WDXV6T1G](#) [DTA115TET1G](#) [NSBC115TDP6T5G](#)