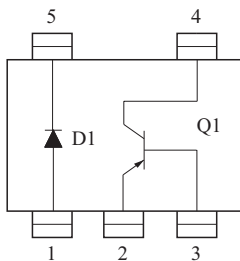


GENERAL PURPOSE APPLICATION.
ULTRA HIGH SPEED SWITCHING APPLICATION.

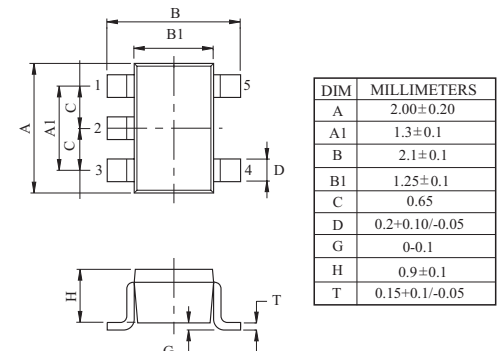
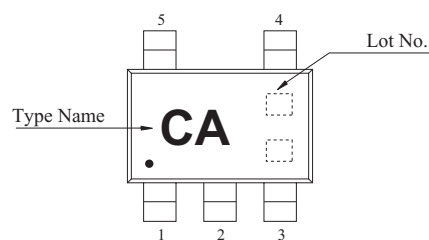
FEATURES

- Including two(TR, Diode) devices in USV.
(Ultra Super Mini type with 5 leads)
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.

EQUIVALENT CIRCUIT (TOP VIEW)



Marking



DIM	MILLIMETERS
A	2.00±0.20
A1	1.3±0.1
B	2.1±0.1
B1	1.25±0.1
C	0.65
D	0.2+0.10/-0.05
G	0-0.1
H	0.9±0.1
T	0.15+0.1/-0.05

1. D₁ ANODE
2. Q₁ EMITTER
3. Q₁ BASE
4. Q₁ COLLECTOR
5. D₁ CATHODE

USV

MARK SPEC

Type	KTX301U	KTX301U
	Q ₁ h _{FE} Rank : Y	Q ₁ h _{FE} Rank : GR
Mark	CA	CB

MAXIMUM RATINGS (Ta=25 °C)

TRANSISTOR Q₁

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CBO}	-50	V
Collector-Emitter Voltage	V _{CEO}	-50	V
Emitter-Base Voltage	V _{EBO}	-5	mA
Collector Current	I _C	-150	mA
Emitter Current	I _B	-30	mA
Collector Power Dissipation	P _C	100	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~150	°C

DIODE D₁

CHARACTERISTIC	SYMBOL	RATING	UNIT
Maximum (Peak) Reverse Voltage	V _{RM}	85	V
Reverse Voltage	V _R	80	V
Maximum (Peak) Forward Current	I _{FM}	300	mA
Average Forward Current	I _O	100	mA
Surge Current (10mS)	I _{FSM}	2	A
Power Dissipation	P _D	-	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~150	°C

KTX301U

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

TRANSISTOR Q₁

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CBO}	V _{CB} =-50V, I _E =0	-	-	-0.1	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} =-5V, I _C =0	-	-	-0.1	μA
DC Current Gain	h _{FE} (Note)	V _{CE} =-6V, I _C =-2mA	120	-	400	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =-100mA, I _B =-10mA	-	-0.1	-0.3	V
Transition Frequency	f _T	V _{CE} =-10V, I _C =-1mA	80	-	-	MHz
Collector Output Capacitance	C _{ob}	V _{CB} =-10V, I _E =0, f=1 MHz	-	4	7	pF
Noise Figure	NF	V _{CE} =-6V, I _C =-0.1mA, f=1kHz, Rg=10 kΩ	-	1.0	10	dB

Note) h_{FE} Classification Y(4):120~240, GR:200~400.

DIODE D₁

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V _{F(1)}	I _F =1mA	-	0.60	-	V
	V _{F(2)}	I _F =10mA	-	0.72	-	
	V _{F(3)}	I _F =100mA	-	0.90	1.20	
Reverse Current	I _R	V _R =80V	-	-	0.5	μA
Total Capacitance	C _T	V _R =0, f=1 MHz	-	0.9	3.0	pF
Reverse Recovery Time	t _{rr}	I _F =10 mA	-	1.6	4.0	ns