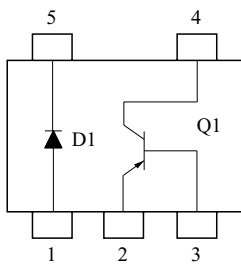


GENERAL PURPOSE APPLICATION.  
ULTRA HIGH SPEED SWITCHING APPLICATION.

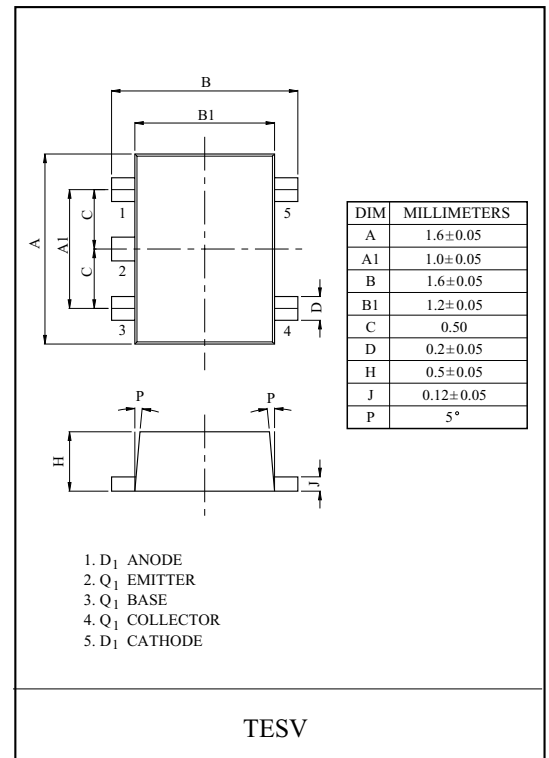
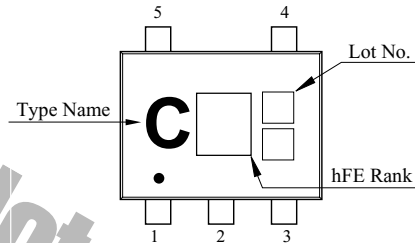
### FEATURES

- Including two(TR, Diode) devices in TESV.  
(Thin Extreme Super mini type with 5pin.)
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.

### EQUIVALENT CIRCUIT (TOP VIEW)



Marking



### MARK SPEC

Type	KTX301E	KTX301E
	Q <sub>1</sub> h <sub>FE</sub> Rank : Y	Q <sub>1</sub> h <sub>FE</sub> Rank : GR
Mark	CA	CB

### MAXIMUM RATINGS (Ta=25 °C)

TRANSISTOR Q<sub>1</sub>

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-50	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-150	mA
Base Current	I <sub>B</sub>	-30	mA
Collector Power Dissipation	P <sub>C</sub>	100	mW
Junction Temperature	T <sub>j</sub>	150	
Storage Temperature Range	T <sub>stg</sub>	-55~150	

DIODE D<sub>1</sub>

CHARACTERISTIC	SYMBOL	RATING	UNIT
Maximum (Peak) Reverse Voltage	V <sub>RM</sub>	85	V
Reverse Voltage	V <sub>R</sub>	80	V
Maximum (Peak) Forward Current	I <sub>FM</sub>	300	mA
Average Forward Current	I <sub>O</sub>	100	mA
Surge Current (10mS)	I <sub>FSM</sub>	2	A
Power Dissipation	P <sub>D</sub>	-	mW
Junction Temperature	T <sub>j</sub>	150	
Storage Temperature Range	T <sub>stg</sub>	-55 150	

# KTX301E

## ELECTRICAL CHARACTERISTICS (Ta=25 ) TRANSISTOR Q<sub>1</sub>

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-50V, I <sub>E</sub> =0	-	-	-0.1	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0	-	-	-0.1	μA
DC Current Gain	h <sub>FE</sub> (Note)	V <sub>CE</sub> =-6V, I <sub>C</sub> =-2mA	120	-	400	
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> =-10mA	-	-0.1	-0.3	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-1mA	80	-	-	MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz	-	4	7	pF
Noise Figure	NF	V <sub>CE</sub> =-6V, I <sub>C</sub> =-0.1mA, f=1kHz, R <sub>g</sub> =10kΩ	-	1.0	10	dB

Note) h<sub>FE</sub> Classification Y(4):120~240, GR:200~400.

## DIODE D<sub>1</sub>

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