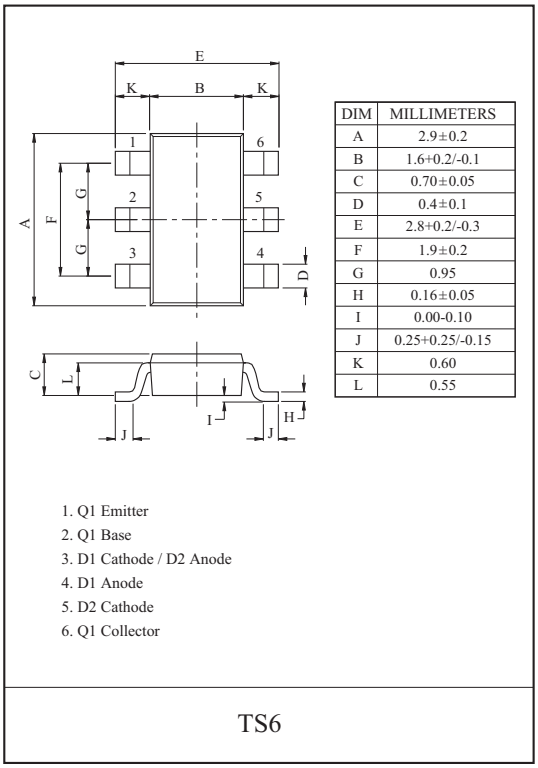
KTX811T

EPITAXIAL PLANAR NPN TRANSISTOR
SILICON EPITAXIAL PLANAR TYPE DIODE

TV Control board Application

FEATURES

- One NPN Transistor (Q1)
- Two Switching Diode (D1, D2)
- Low Saturation Voltage
  : $V_{CE(sat)}$ = 0.25V(Max)@ I_C = 100mA, I_B = 10mA
- Suffix U : Qualified to AEC-Q101.
  ex) KTX811T-RTK/HU

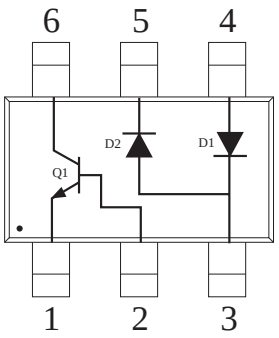


DIM	MILLIMETERS
A	2.9±0.2
B	1.6+0.2/-0.1
C	0.70±0.05
D	0.4±0.1
E	2.8+0.2/-0.3
F	1.9±0.2
G	0.95
H	0.16±0.05
I	0.00-0.10
J	0.25+0.25/-0.15
K	0.60
L	0.55

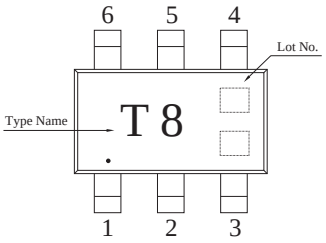
1. Q1 Emitter
2. Q1 Base
3. D1 Cathode / D2 Anode
4. D1 Anode
5. D2 Cathode
6. Q1 Collector

TS6

EQUIVALENT CIRCUIT (TOP VIEW)



Marking



MAXIMUM RATING (Ta=25℃)

TRANSISTOR

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	500	mA
Base Current	I_B	100	mA

DIODE

CHARACTERISTIC	SYMBOL	RATING	UNIT
Maximum (Peak) Reverse Voltage	V_{RM}	80	V
Reverse Voltage	V_R	80	V
Maximum (Peak) Forward Current	I_{FM}	300	mA
Average Forward Current	I_O	200	mA
Surge Current (100μs)	I_{FSM}	4	A

COMMON

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	*P_D	900	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

* : Package mounted on a ceramic board (600mm² × 0.8mm)

ELECTRICAL CHARACTERISTICS (Ta=25℃)

TRANSISTOR

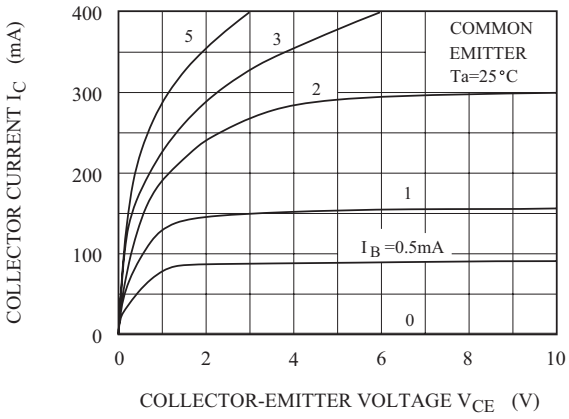
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=80V, I_E=0	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=5V, I_C=0	-	-	0.1	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	80	-	-	V
DC Current Gain	h_{FE}(1)	V_{CE}=1V, I_C=10mA	100	-	-	
	h_{FE}(2)	V_{CE}=1V, I_C=100mA	100	-	250	
Collector-Emiotter Saturation Voltage	$V_{CE(sat)}$	I_C=100mA, I_B=10mA	-	-	0.25	V
Base-Emitter Voltage	V_{BE}	V_{CE}=1V, I_C=100mA	-	-	1.2	V
Transition Frequency	f_T	V_{CE}=2V, I_C=10mA	100	-	-	MH_Z

ELECTRICAL CHARACTERISTICS (Ta=25℃)

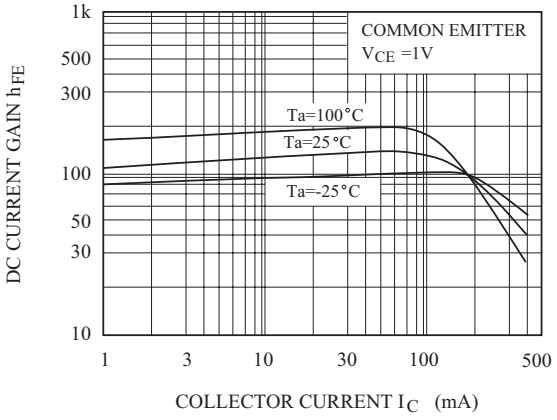
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	$V_{F(1)}$	I_F=1mA	-	0.60	-	V
	$V_{F(2)}$	I_F=10mA	-	0.72	-	
	$V_{F(3)}$	I_F=100mA	-	0.90	1.20	
Reverse Current	I_R	V_R=80V	-	-	0.1	μA
Total Capacitance	C_T	V_R=0V, f=1MHz	-	0.9	3.0	pF
Reverse Recovery Time	t_{rr}	I_F=10mA	-	1.6	4.0	nS

Q1 (NPN TRANSISTOR)

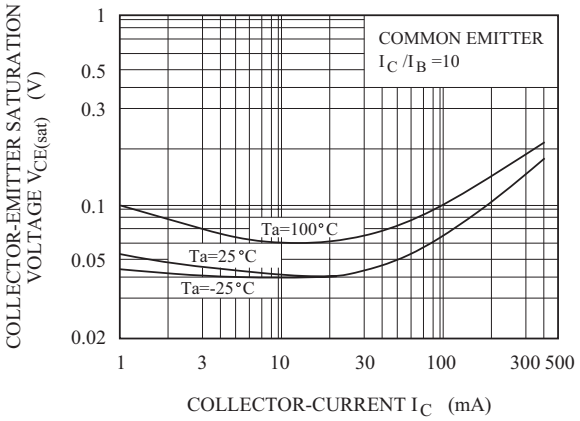
I_C - V_{CE}



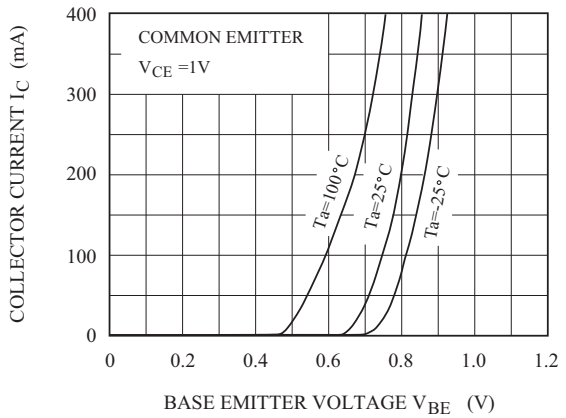
h_{FE} - I_C



$V_{CE(sat)}$ - I_C

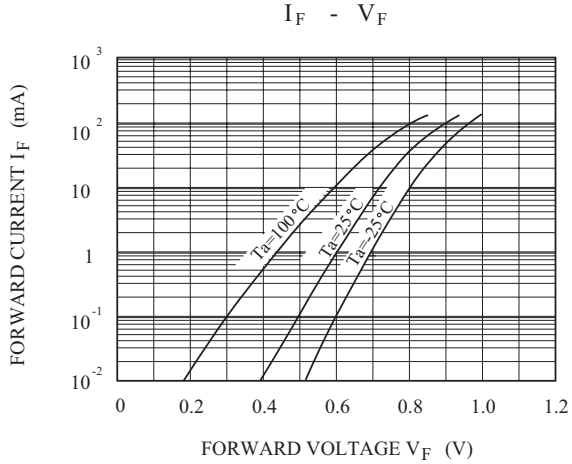


I_C - V_{BE}

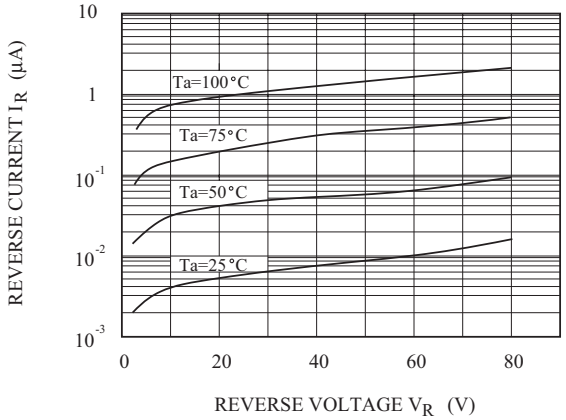


D1, D2 (SWITCHING DIODE)

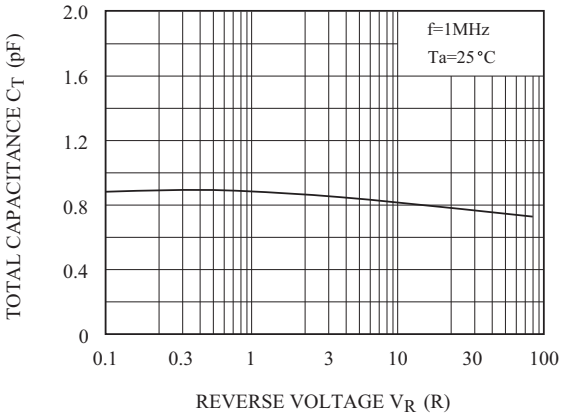
I_F - V_F



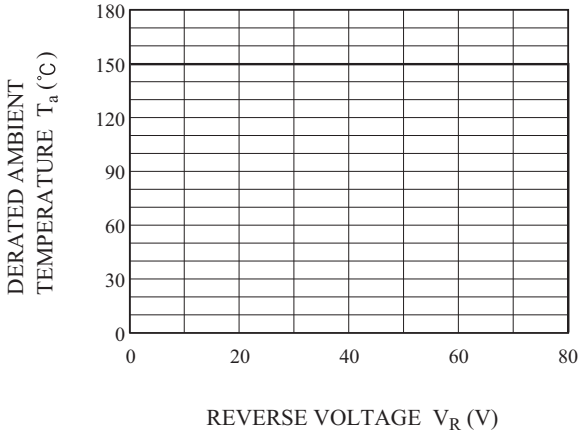
I_R - V_R



C_T - V_R



V_R - T_a



P_C - T_a