

KEC

SEMICONDUCTOR
TECHNICAL DATA

KRC681T~KRC686T

EPITAXIAL PLANAR NPN TRANSISTOR

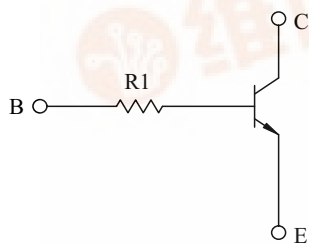
SWITCHING APPLICATION.

AUDIO MUTING APPLICATION.

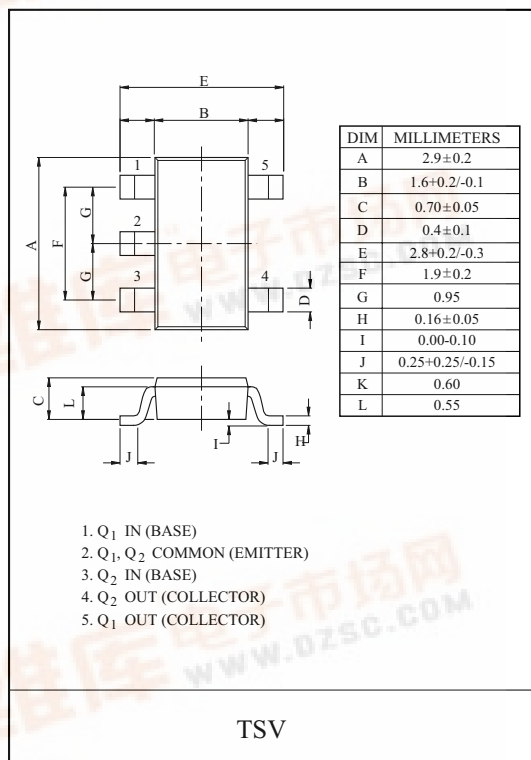
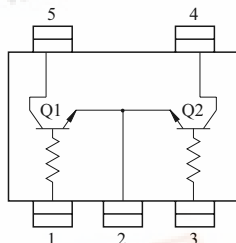
FEATURES

- High emitter-base voltage : $V_{EBO}=25V(\text{Min})$
- High reverse h_{FE} : reverse $h_{FE}=150(\text{Typ.})$ ($V_{CE}=-2V$, $I_C=-4mA$)
- Low on resistance : $R_{on}=1\Omega(\text{Typ.})$ ($I_B=5mA$)
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.

EQUIVALENT CIRCUIT



EQUIVALENT CIRCUIT (TOP VIEW)



MAXIMUM RATING (Ta=25℃)

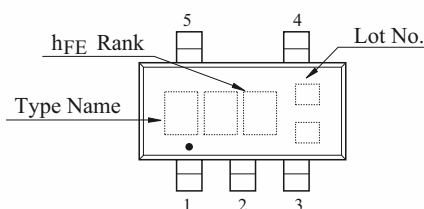
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	25	V
Collector Current	I_C	300	mA
Collector Power Dissipation	P_C^*	0.9	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃

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

MARK SPEC

TYPE	h_{FE} classification
	B
KRC681T	MQB
KRC682T	MRB
KRC683T	MSB
KRC684T	MTB
KRC685T	MUB
KRC686T	MVB

Marking



KRC681T~KRC686T

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage		BV_{CEO}	$I_C=1mA$	20	-	-	V
Collector-Base Breakdown Voltage		BV_{CBO}	$I_C=50\mu A$	50	-	-	V
Emitter-Base Breakdown Voltage		BV_{EBO}	$I_E=50\mu A$	25	-	-	V
Collector Cut-off Current		I_{CBO}	$V_{CB}=50V, I_E=0$	-	-	0.1	μA
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=30mA, I_B=3mA$	-	-	0.1	V
DC Current Gain		h_{FE}	$V_{CE}=2V, I_C=4mA$	350	-	1200	
Input Resistor	KRC681T	R_i		-	2.2	-	$k\Omega$
	KRC682T			-	4.7	-	
	KRC683T			-	5.6	-	
	KRC684T			-	6.8	-	
	KRC685T			-	10	-	
	KRC686T			-	22	-	
Transition Frequency		f_T^*	$V_{CE}=6V, I_C=4mA,$	-	30	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	4.8	-	pF

* Characteristic of Transistor Only.

Note) h_{FE} Classification B:350 ~ 1200