

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

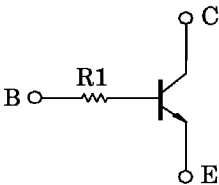
RN1441, RN1442, RN1443, RN1444

Unit in mm

MUTING AND SWITCHING APPLICATIONS

- High Emitter-Base Voltage : $V_{EBO}=25V$ (Min.)
- High Reverse h_{FE}
: Reverse $h_{FE}=150$ (Typ.) ($V_{CE}=-2V$, $I_C=-4mA$)
- Low On Resistance : $R_{ON}=1\Omega$ (Typ.) ($I_B=5mA$)
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process

EQUIVALENT CIRCUIT



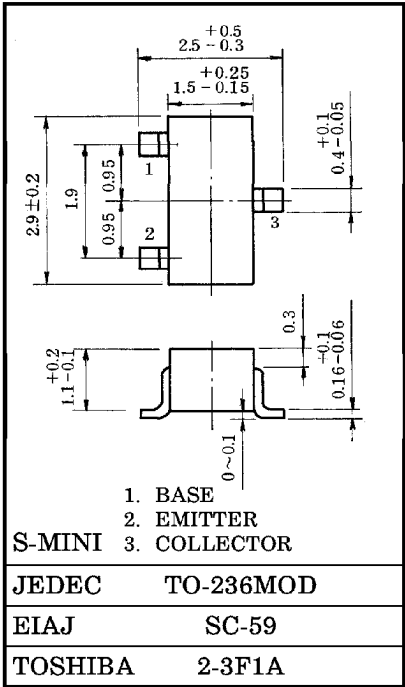
MAXIMUM RATINGS (Ta = 25°C)

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	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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}	$V_{EB}=25V$, $I_C=0$	—	—	0.1	μA
DC Current Gain		$h_{FE}(\text{Note})$	$V_{CE}=2V$, $I_C=4mA$	200	—	1200	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=30mA$, $I_B=3mA$	—	—	0.1	V
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
Input Resistor	RN1441	R1	—	3.9	5.6	7.3	k Ω
	RN1442			7	10	13	
	RN1443			15.4	22	28.6	
	RN1444			1.54	2.2	2.86	

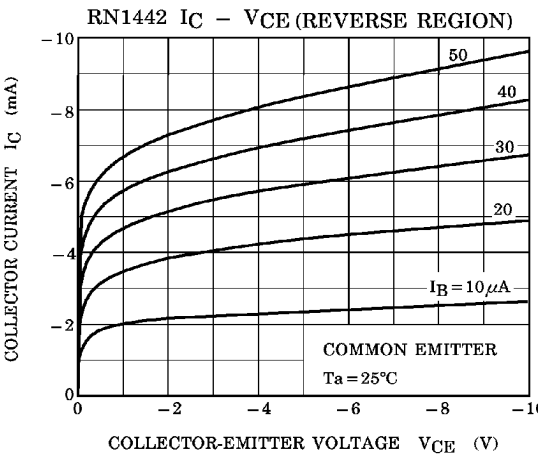
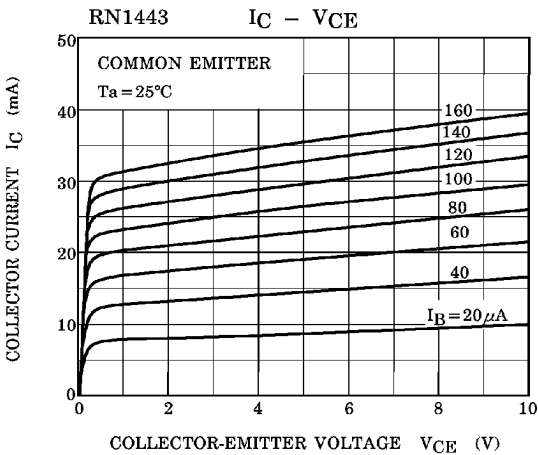
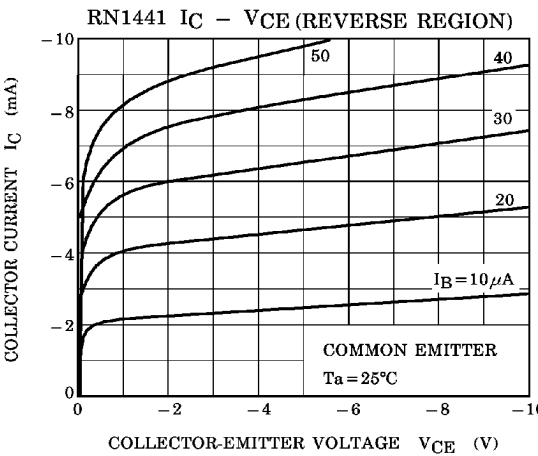
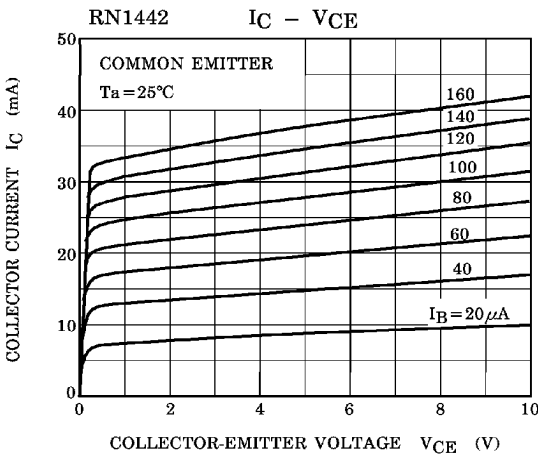
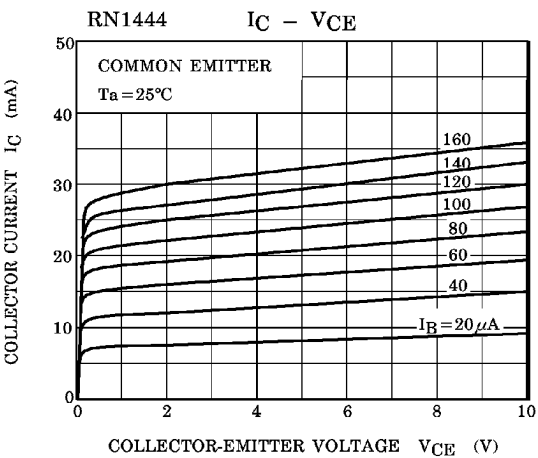
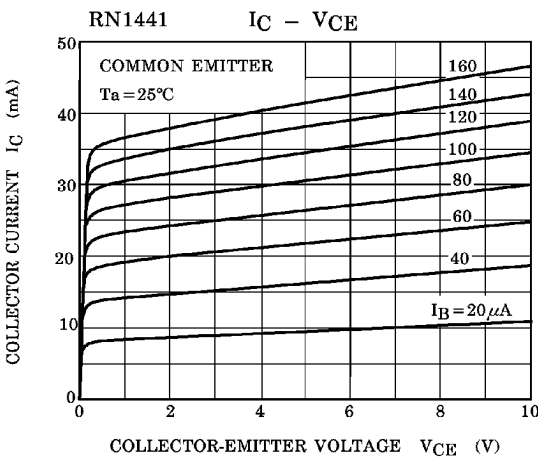
Note : h_{FE} Classification A : 200~700 B : 350~1200



MARKING

TYPE NAME	h_{FE} Classification	
	A	B
RN1441	KA	KB
RN1442	LA	LB
RN1443	NA	NB
RN1444	CA	CB

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