

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

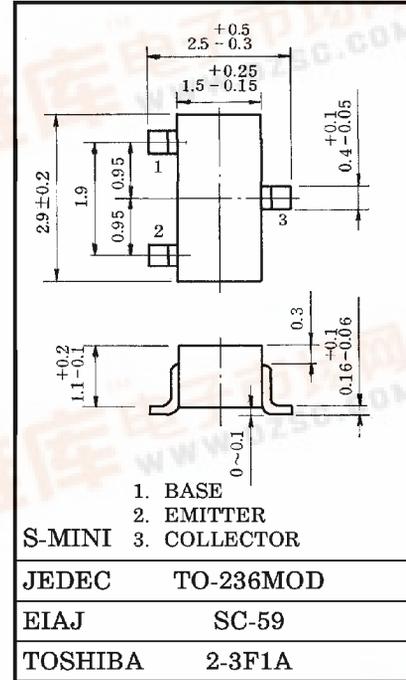
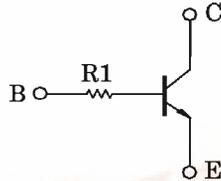
RN1441, RN1442, RN1443, RN1444

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



1. BASE
2. EMITTER
3. COLLECTOR

JEDEC TO-236MOD
EIAJ SC-59
TOSHIBA 2-3F1A

MAXIMUM RATINGS ($T_a = 25^\circ C$)

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	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$

MARKING Weight : 0.012g

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

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

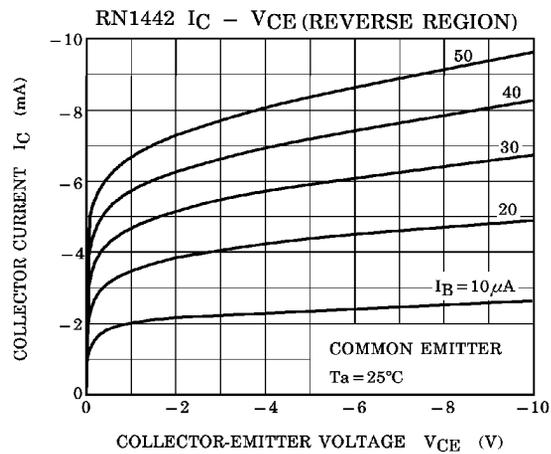
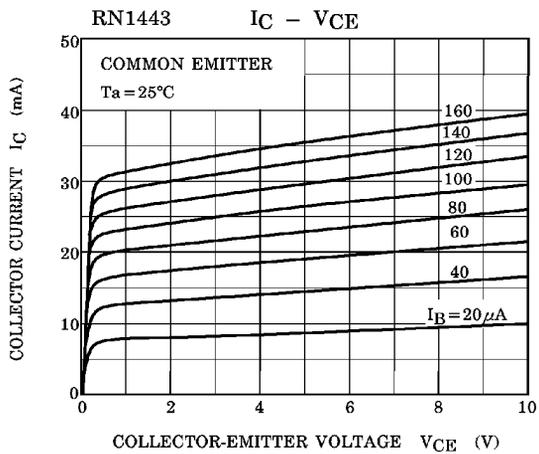
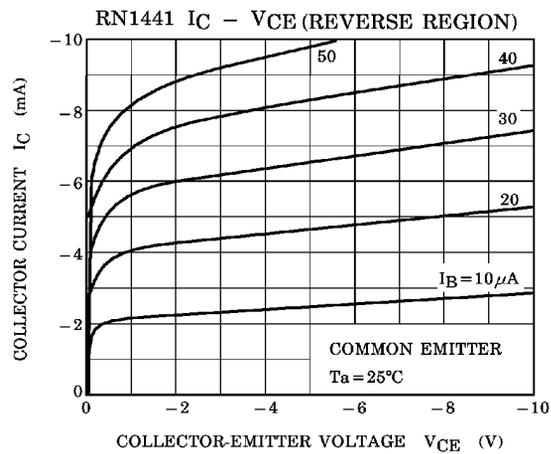
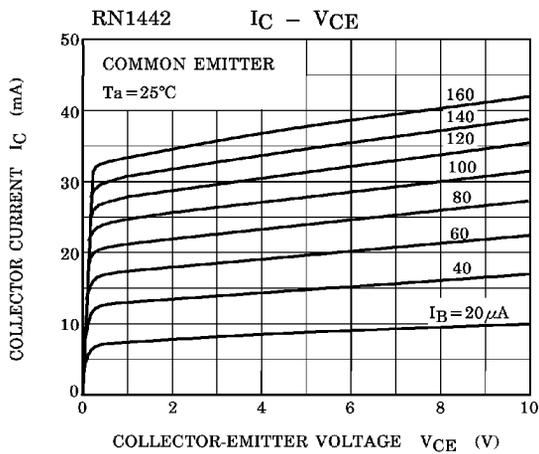
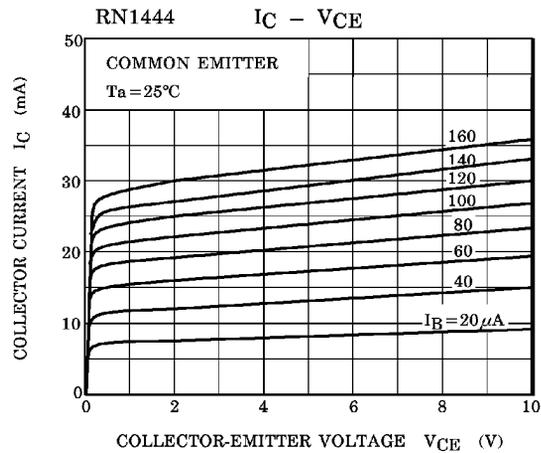
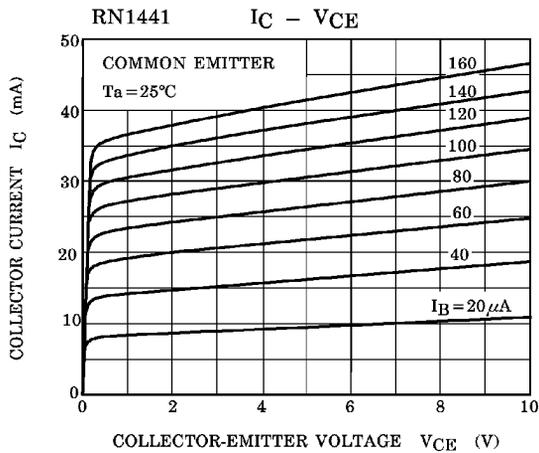
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	I_{CBO}	$V_{CB}=50V, I_E=0$	—	—	0.1	μA	
Emitter Cut-off Current	I_{EBO}	$V_{EB}=25V, I_C=0$	—	—	0.1	μA	
DC Current Gain	$h_{FE}(\text{Note})$	$V_{CE}=2V, I_C=4mA$	200	—	1200		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=30mA, I_B=3mA$	—	—	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

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