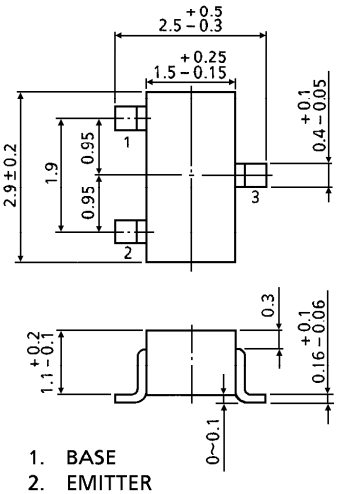
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

RN2414, RN2415, RN2416, RN2417, RN2418

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT
AND DRIVER CIRCUIT APPLICATIONS.

- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1414~RN1418

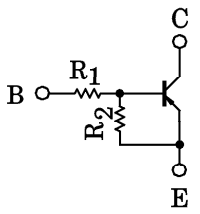
Unit in mm



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

Weight : 0.012g

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE No.	R_1 (kΩ)	R_2 (kΩ)
RN2414	1	10
RN2415	2.2	10
RN2416	4.7	10
RN2417	10	4.7
RN2418	47	10

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	RN2414~2418	V_{CBO}	−50	V
Collector-Emitter Voltage	RN2414~2418	V_{CEO}	−50	V
Emitter-Base Voltage	RN2414	V_{EBO}	−5	V
	RN2415		−6	
	RN2416		−7	
	RN2417		−15	
	RN2418		−25	
Collector Current	RN2414~2418	I_C	−100	mA
Collector Power Dissipation	RN2414~2418	P_C	200	mW
Junction Temperature	RN2414~2418	T_j	150	°C
Storage Temperature Range	RN2414~2418	T_{stg}	−55~150	°C

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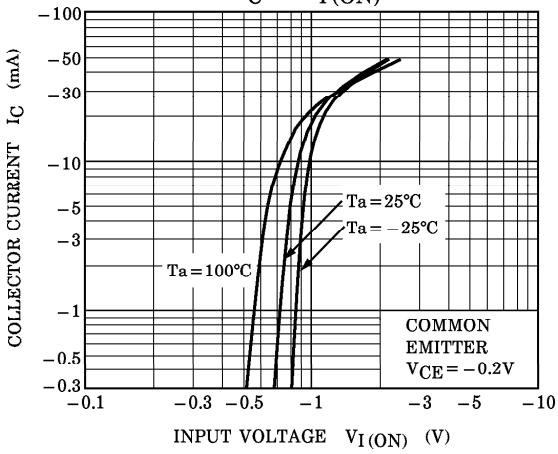
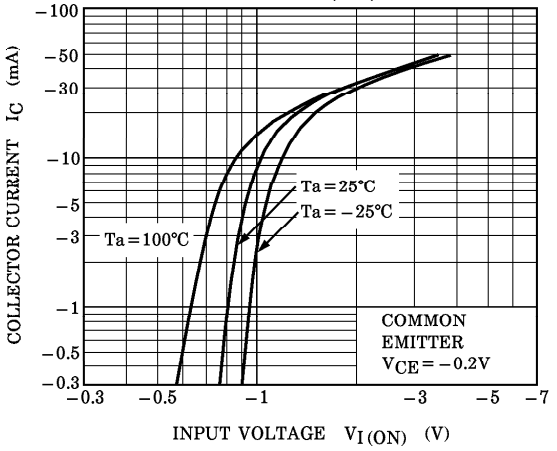
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN2414~2418	I_{CBO}	$V_{CB}=-50V$, $I_E=0$	—	—	−100	nA
	RN2414~2418	I_{CEO}	$V_{CE}=-50V$, $I_B=0$	—	—	−500	nA
Emitter Cut-off Current	RN2414	I_{EBO}	$V_{EB}=-5V$, $I_C=0$	−0.35	—	−0.65	mA
	RN2415		$V_{EB}=-6V$, $I_C=0$	−0.37	—	−0.71	
	RN2416		$V_{EB}=-7V$, $I_C=0$	−0.36	—	−0.68	
	RN2417		$V_{EB}=-15V$, $I_C=0$	−0.78	—	−1.46	
	RN2418		$V_{EB}=-25V$, $I_C=0$	−0.33	—	−0.63	
DC Current Gain	RN2414~16, 18	h_{FE}	$V_{CE}=-5V$, $I_C=-10mA$	50	—	—	
	RN2417			30	—	—	
Collector-Emitter Saturation Voltage	RN2414~2418	$V_{CE\ (sat)}$	$I_C=-5mA$, $I_B=-0.25mA$	—	−0.1	−0.3	V
Input Voltage (ON)	RN2414	$V_{I\ (ON)}$	$V_{CE}=-0.2V$, $I_C=-5mA$	−0.5	—	−2.0	V
	RN2415			−0.6	—	−2.5	
	RN2416			−0.7	—	−2.5	
	RN2417			−1.5	—	−3.5	
	RN2418			−2.5	—	−10.0	
Input Voltage (OFF)	RN2414	$V_{I\ (OFF)}$	$V_{CE}=-5V$, $I_C=-0.1mA$	−0.3	—	−0.9	V
	RN2415			−0.3	—	−1.0	
	RN2416			−0.3	—	−1.1	
	RN2417			−0.3	—	−3.0	
	RN2418			−0.5	—	−5.7	
Transition Frequency	RN2414~2418	f_T	$V_{CE}=-10V$, $I_C=-5mA$	—	200	—	MHz
Collector Output Capacitance	RN2414~2418	C_{ob}	$V_{CB}=-10V$, $I_E=0$, f=1MHz	—	3.0	6.0	pF
Input Resistor	RN2414	R_1	—	0.7	1.0	1.3	kΩ
	RN2415			1.54	2.2	2.86	
	RN2416			3.29	4.7	6.11	
	RN2417			7.0	10.0	13.0	
	RN2418			32.9	47.0	61.1	
Resistor Ratio	RN2414	R_1 / R_2	—	—	0.1	—	
	RN2415			—	0.22	—	
	RN2416			—	0.47	—	
	RN2417			—	2.13	—	
	RN2418			—	4.7	—	

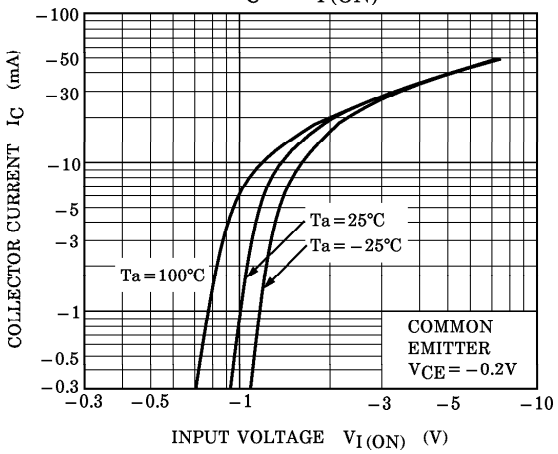
RN2414 $I_C - V_{I(ON)}$



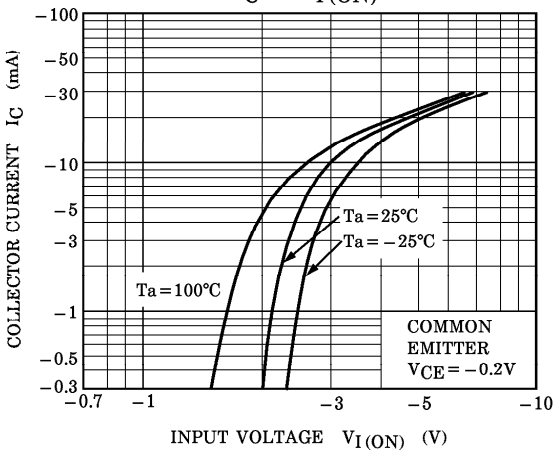
RN2415 $I_C - V_{I(ON)}$



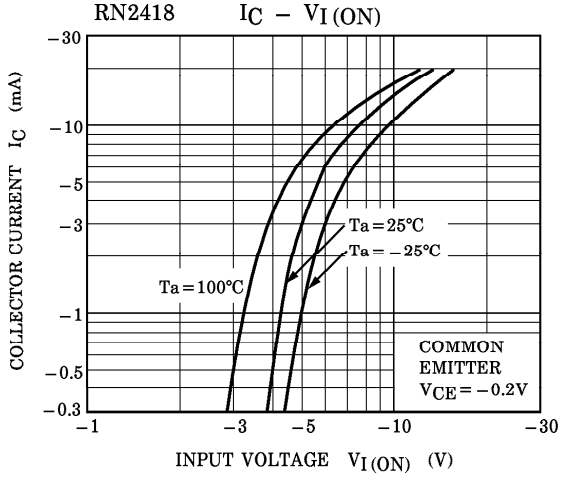
RN2416 $I_C - V_{I(ON)}$



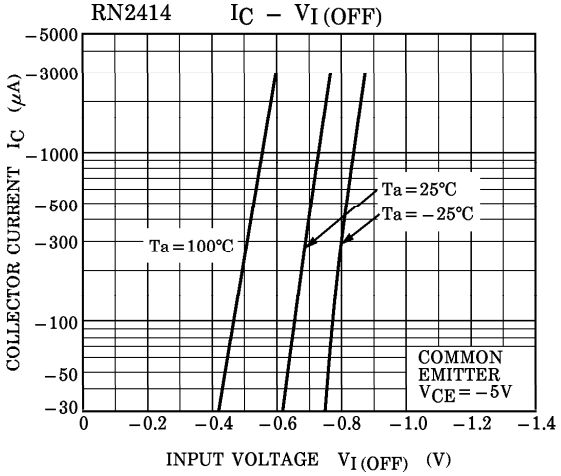
RN2417 $I_C - V_{I(ON)}$



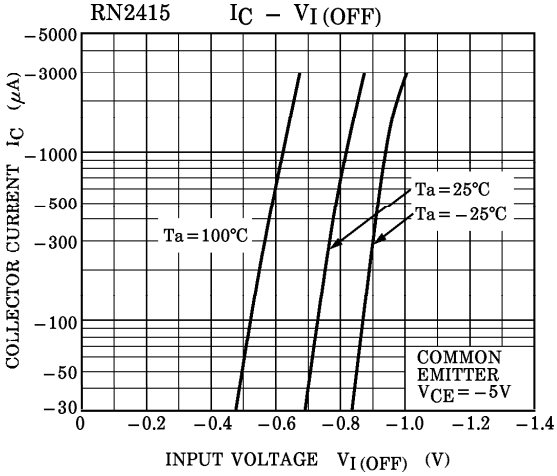
RN2418 $I_C - V_{I(ON)}$



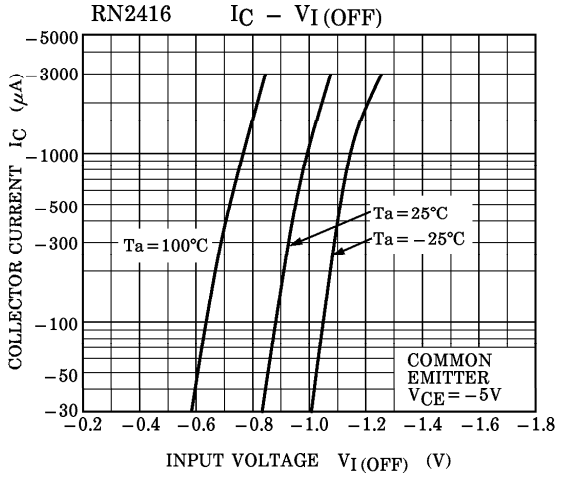
RN2414 I_C – $V_{I(OFF)}$



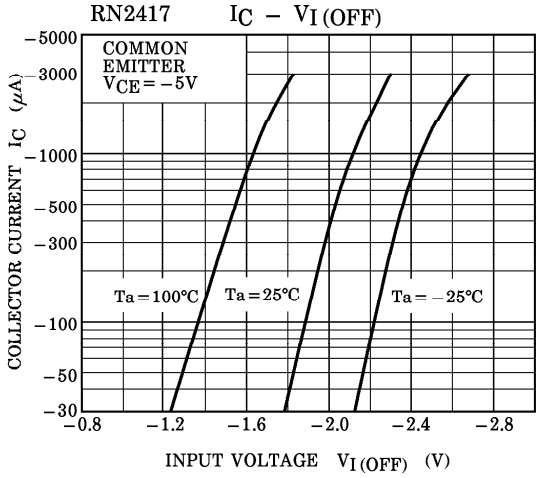
RN2415 I_C – $V_{I(OFF)}$



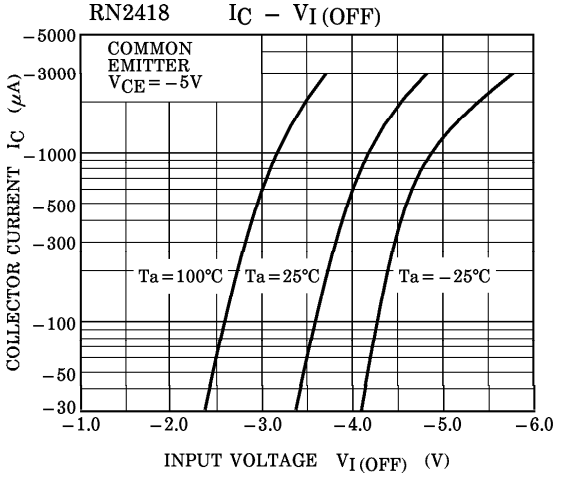
RN2416 I_C – $V_{I(OFF)}$



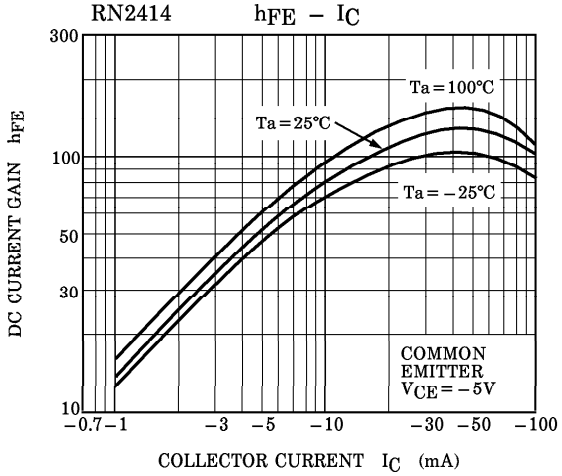
RN2417 I_C – $V_{I(OFF)}$



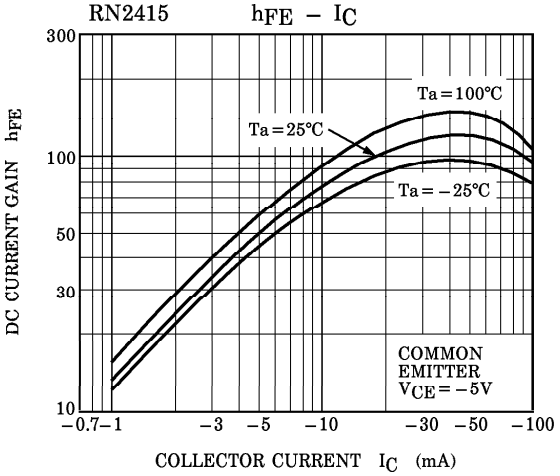
RN2418 I_C – $V_{I(OFF)}$



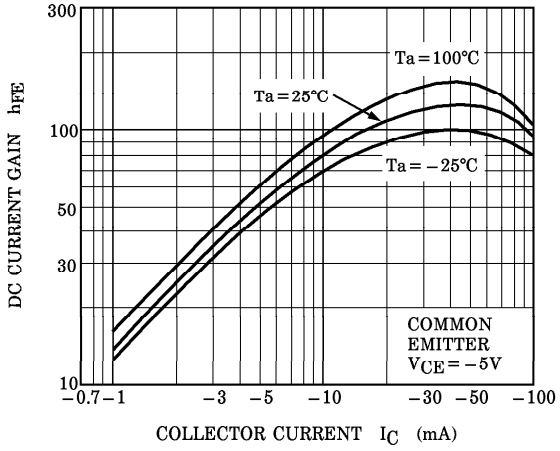
RN2414 h_{FE} – I_C



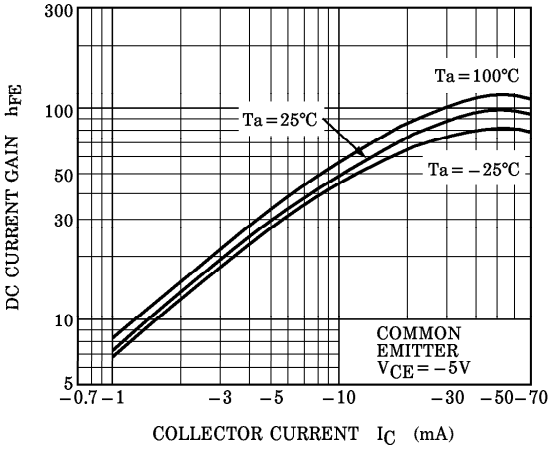
RN2415 h_{FE} – I_C



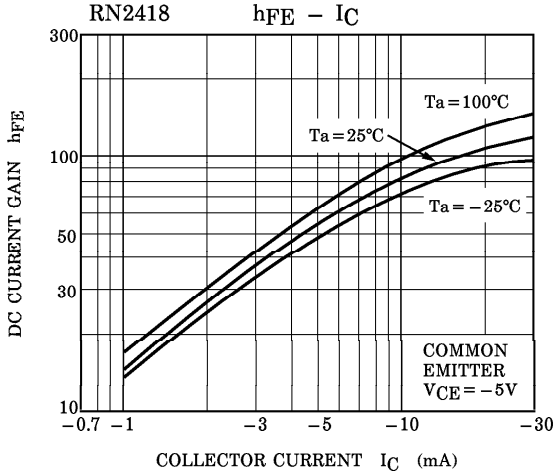
RN2416 h_{FE} – I_C



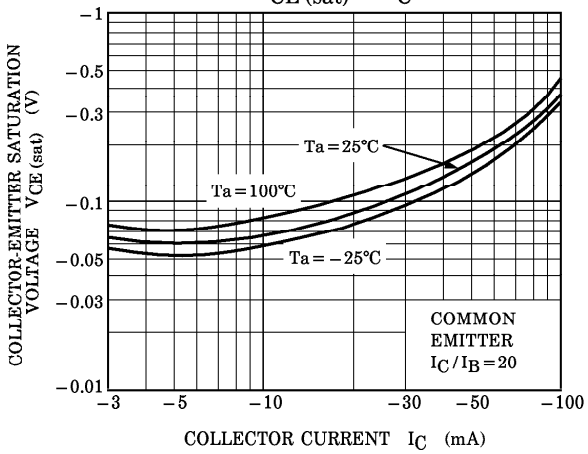
RN2417 h_{FE} – I_C



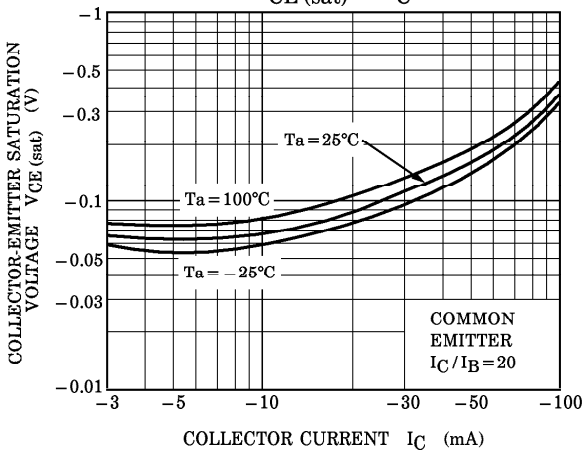
RN2418 h_{FE} – I_C



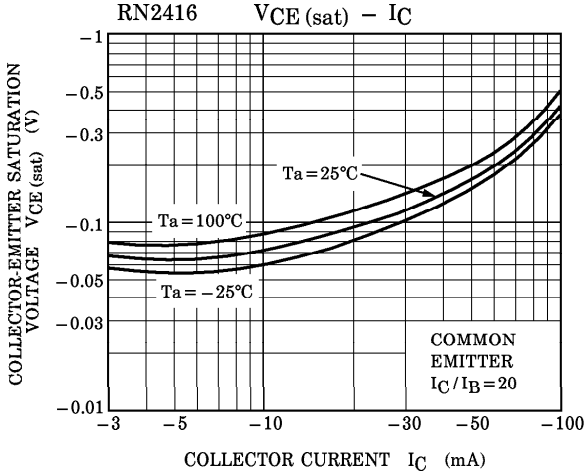
RN2414 $V_{CE\,(sat)}$ – I_C



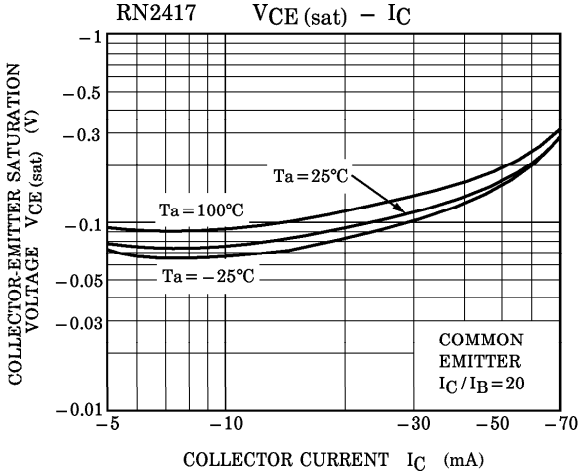
RN2415 $V_{CE\,(sat)}$ – I_C



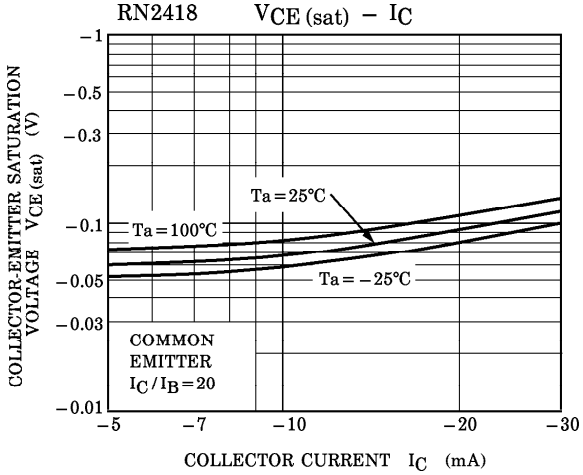
RN2416 $V_{CE\,(sat)}$ – I_C

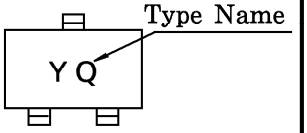
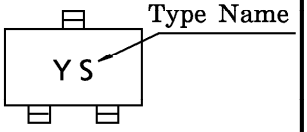
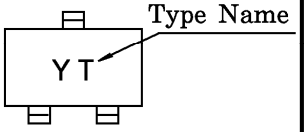
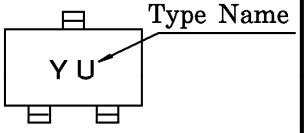


RN2417 $V_{CE\,(sat)}$ – I_C



RN2418 $V_{CE\,(sat)}$ – I_C



TYPE NAME	MARKING
RN2414	
RN2415	
RN2416	
RN2417	
RN2418