

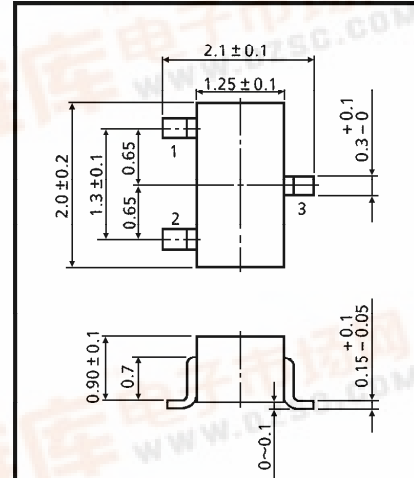
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

**RN2314, RN2315, RN2316, RN2317, RN2318**

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

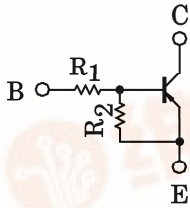
Unit in mm

- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1314~RN1318



1. BASE
2. EMITTER
3. COLLECTOR

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES



TYPE No.	R <sub>1</sub> (kΩ)	R <sub>2</sub> (kΩ)
RN2314	1	10
RN2315	2.2	10
RN2316	4.7	10
RN2317	10	4.7
RN2318	47	10

USM	
JEDEC	—
EIAJ	SC-70
TOSHIBA	2-2E1A

Weight : 0.006g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	RN2314~2318	VCBO	-50 V
Collector-Emitter Voltage		VCEO	-50 V
Emitter-Base Voltage	RN2314	VEBO	-5 V
	RN2315		-6 V
	RN2316		-7 V
	RN2317		-15 V
	RN2318		-25 V
Collector Current	RN2314~2318	IC	-100 mA
Collector Power Dissipation		PC	100 mW
Junction Temperature		Tj	150 °C
Storage Temperature Range		Tstg	-55~150 °C

961001EAA2

● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

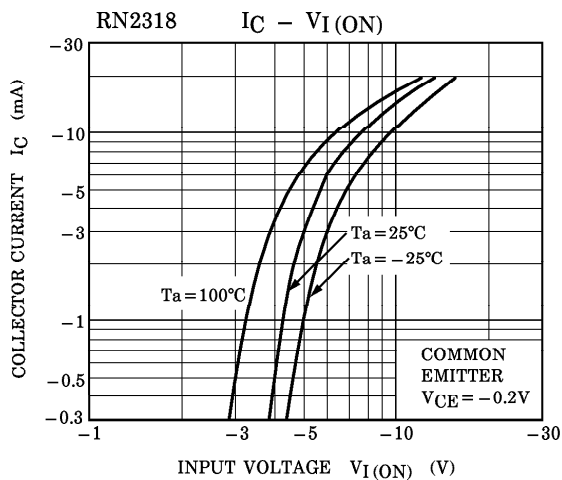
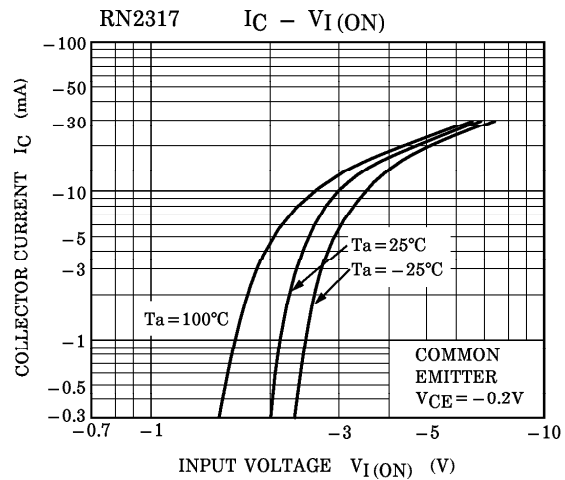
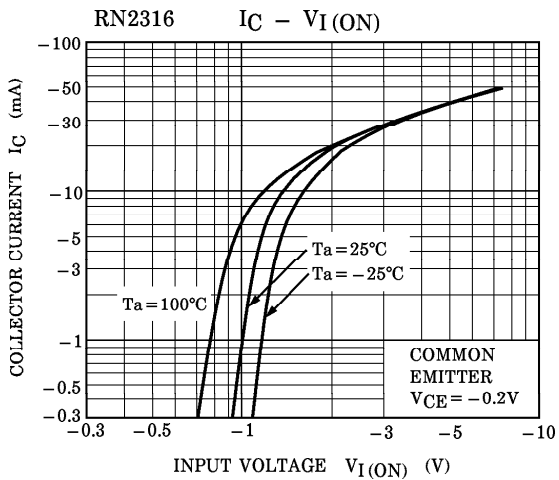
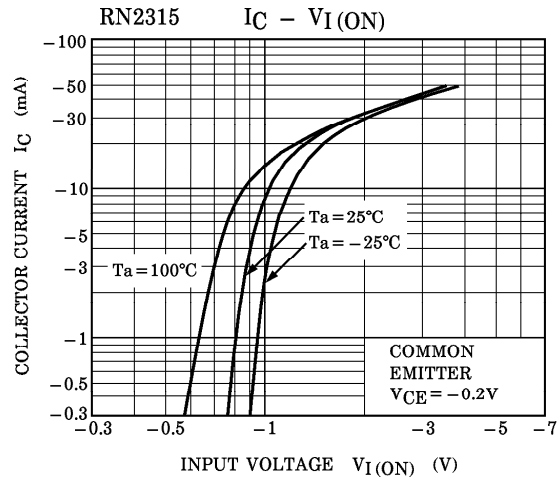
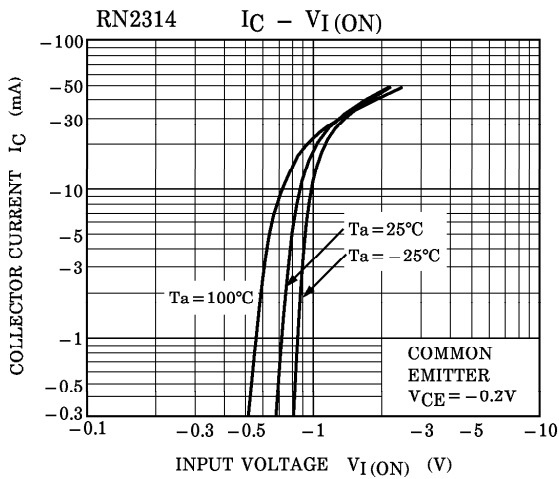
● The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.

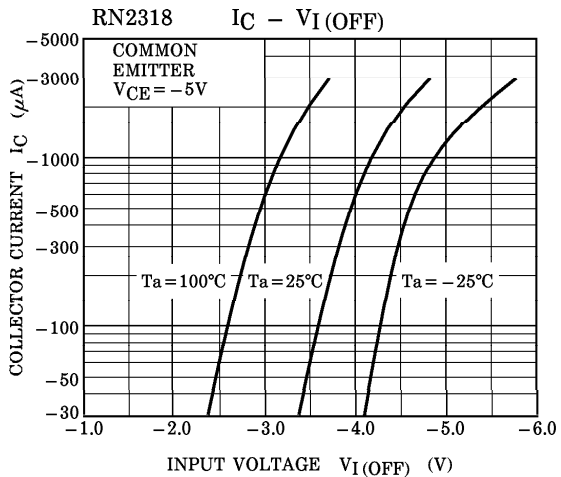
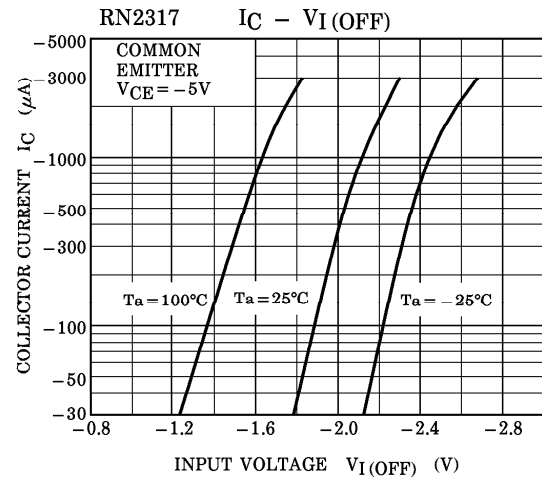
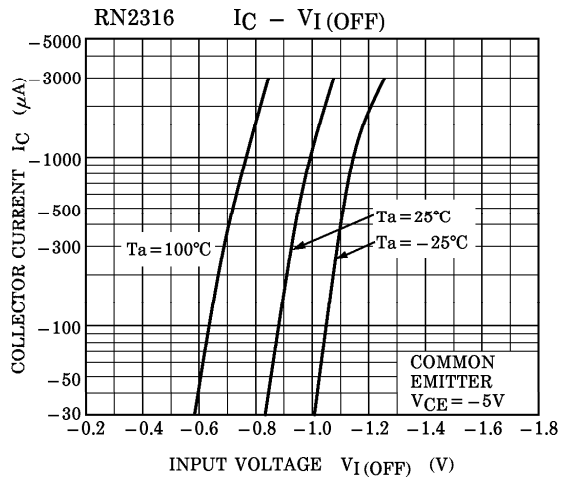
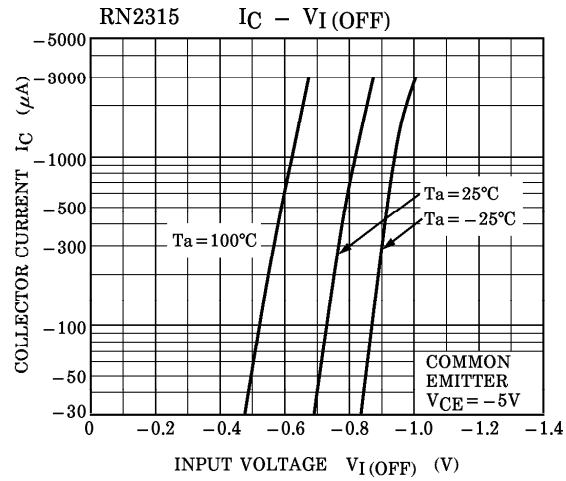
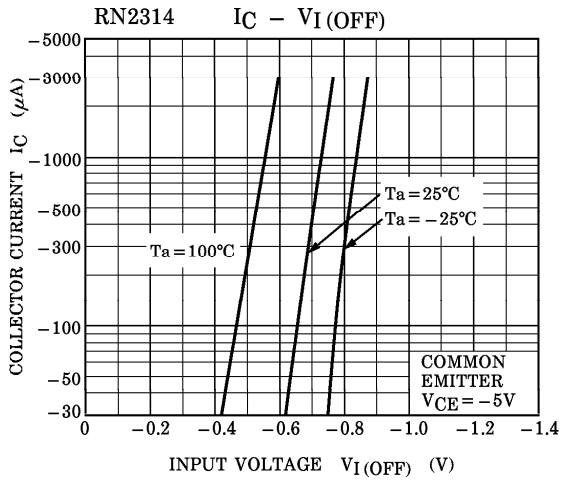
● The information contained herein is subject to change without notice.

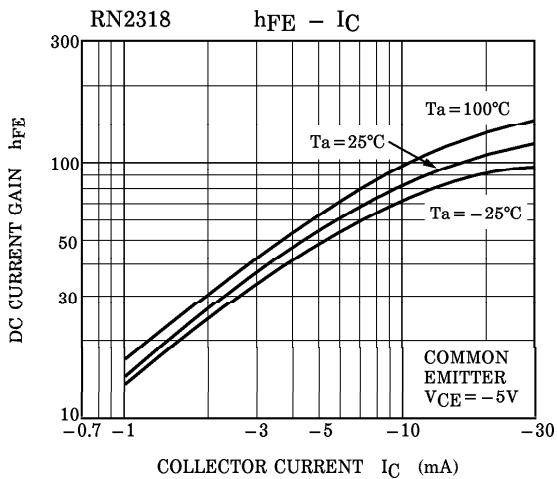
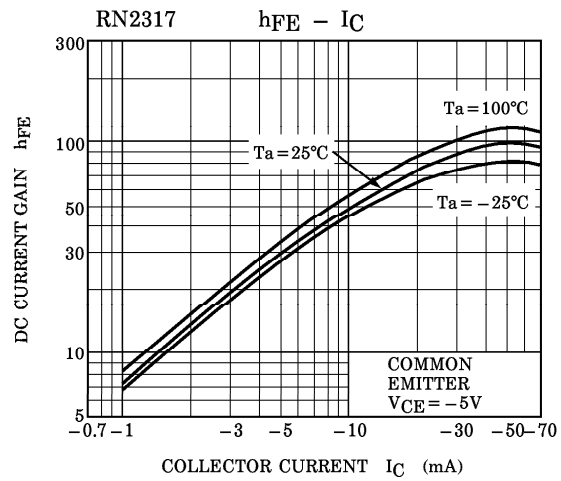
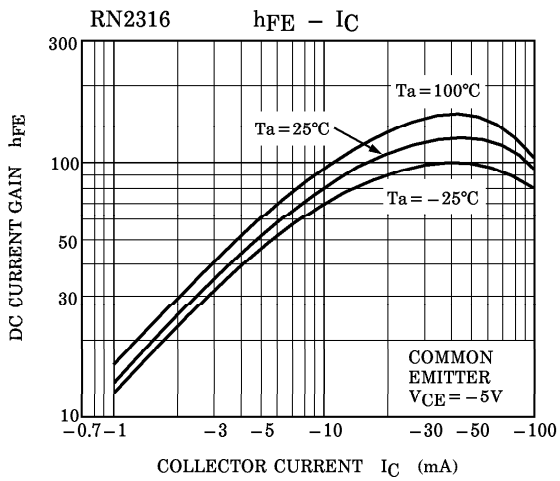
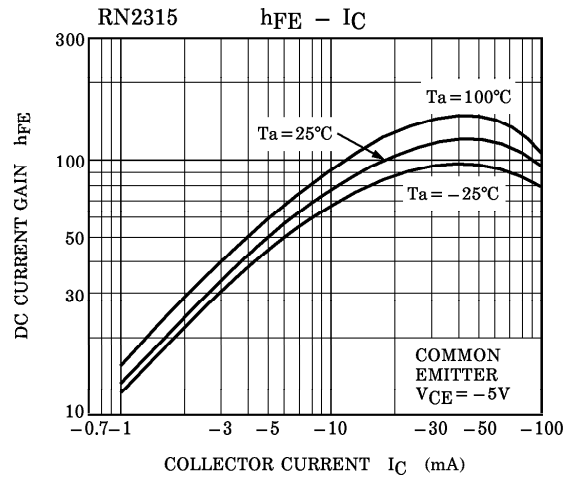
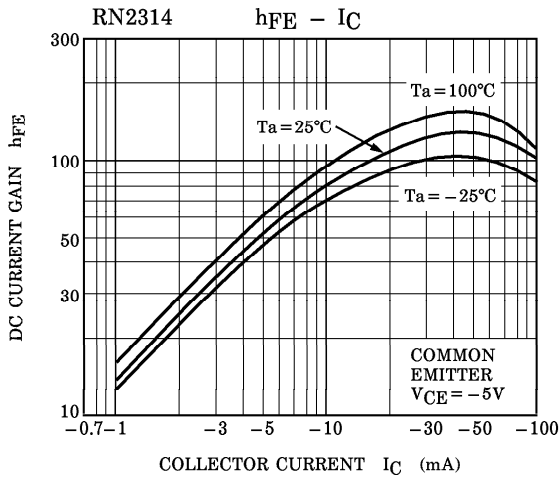


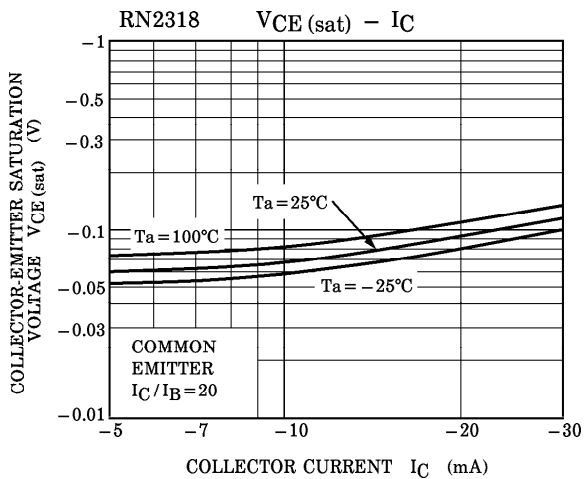
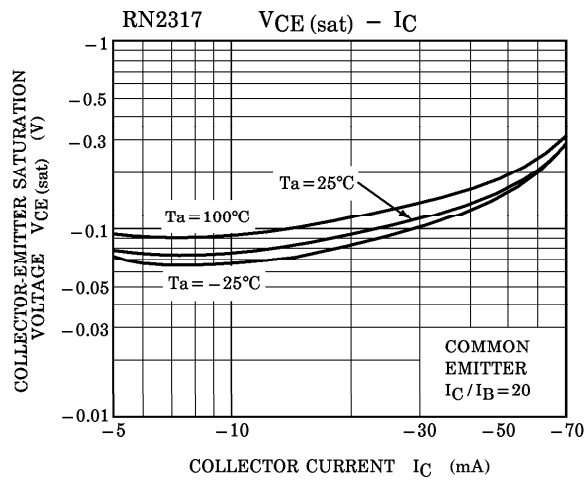
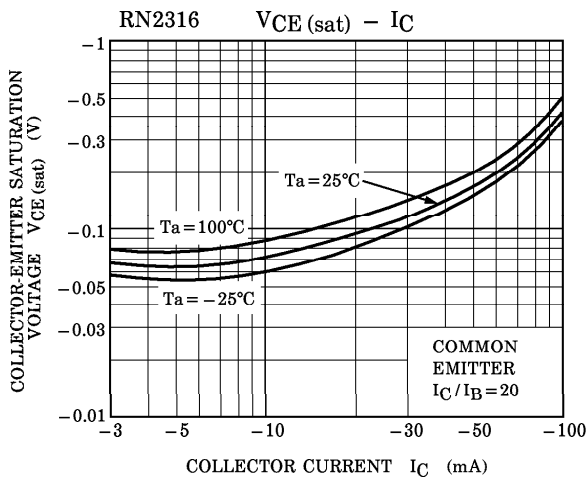
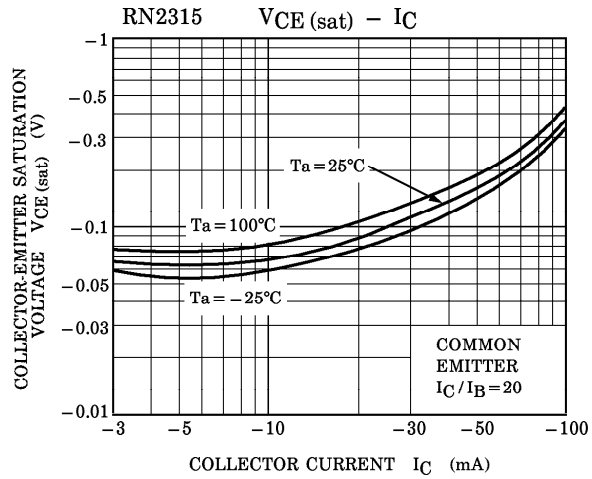
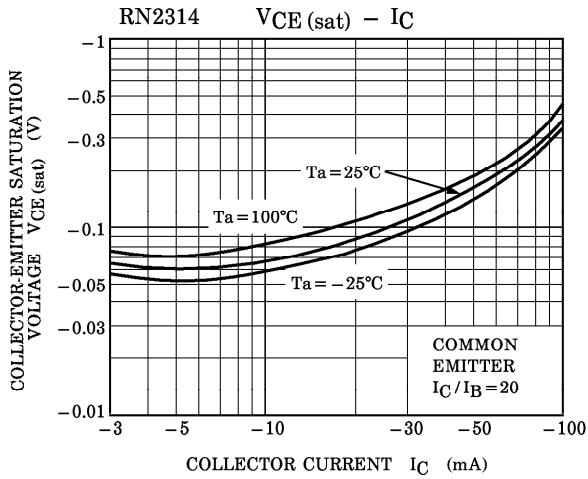
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

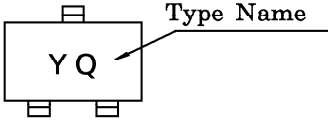
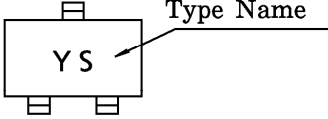
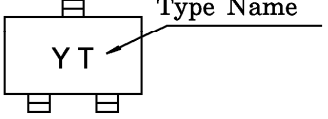
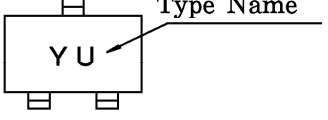
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN2314~2318	$I_{CBO}$	$V_{CB} = -50V, I_E = 0$	—	—	-100	nA
	RN2314~2318	$I_{CEO}$	$V_{CE} = -50V, I_B = 0$	—	—	-500	nA
Emitter Cut-off Current	RN2314	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$	-0.35	—	-0.65	mA
	RN2315		$V_{EB} = -6V, I_C = 0$	-0.37	—	-0.71	
	RN2316		$V_{EB} = -7V, I_C = 0$	-0.36	—	-0.68	
	RN2317		$V_{EB} = -15V, I_C = 0$	-0.78	—	-1.46	
	RN2318		$V_{EB} = -25V, I_C = 0$	-0.33	—	-0.63	
DC Current Gain	RN2314~16, 18	$h_{FE}$	$V_{CE} = -5V, I_C = -10mA$	50	—	—	
	RN2317			30	—	—	
Collector-Emitter Saturation Voltage	RN2314~2318	$V_{CE(sat)}$	$I_C = -5mA, I_B = -0.25mA$	—	-0.1	-0.3	V
Input Voltage (ON)	RN2314	$V_{I(ON)}$	$V_{CE} = -0.2V, I_C = -5mA$	-0.5	—	-2.0	V
	RN2315			-0.6	—	-2.5	
	RN2316			-0.7	—	-2.5	
	RN2317			-1.5	—	-3.5	
	RN2318			-2.5	—	-10.0	
Input Voltage (OFF)	RN2314	$V_{I(OFF)}$	$V_{CE} = -5V, I_C = -0.1mA$	-0.3	—	-0.9	V
	RN2315			-0.3	—	-1.0	
	RN2316			-0.3	—	-1.1	
	RN2317			-0.3	—	-3.0	
	RN2318			-0.5	—	-5.7	
Transition Frequency	RN2314~2318	$f_T$	$V_{CE} = -10V, I_C = -5mA$	—	200	—	MHz
Collector Output Capacitance	RN2314~2318	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	3.0	6.0	pF
Input Resistor	RN2314	$R_1$	—	0.7	1.0	1.3	kΩ
	RN2315			1.54	2.2	2.86	
	RN2316			3.29	4.7	6.11	
	RN2317			7.0	10.0	13.0	
	RN2318			32.9	47.0	61.1	
Resistor Ratio	RN2314	$R_1 / R_2$	—	—	0.1	—	
	RN2315			—	0.22	—	
	RN2316			—	0.47	—	
	RN2317			—	2.13	—	
	RN2318			—	4.7	—	









TYPE NAME	MARKING
RN2314	
RN2315	
RN2316	
RN2317	
RN2318	