

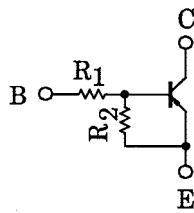
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

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

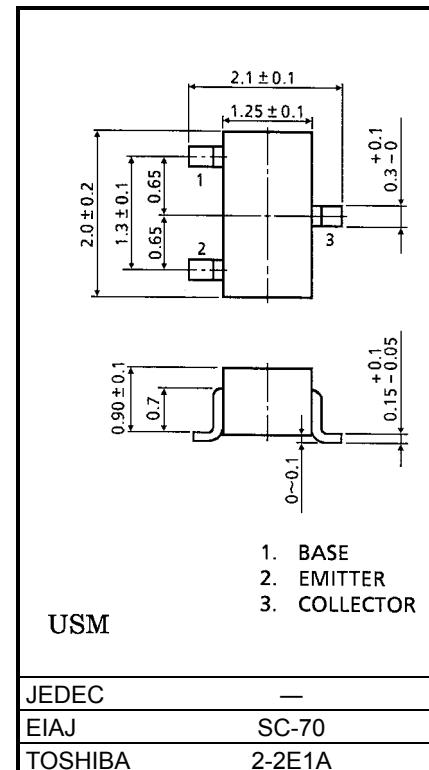
Switching, Inverter Circuit, Interface Circuit  
And Driver Circuit Applications

Unit: mm

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1314~RN1318

**Equivalent Circuit and Bias Resistor Values**

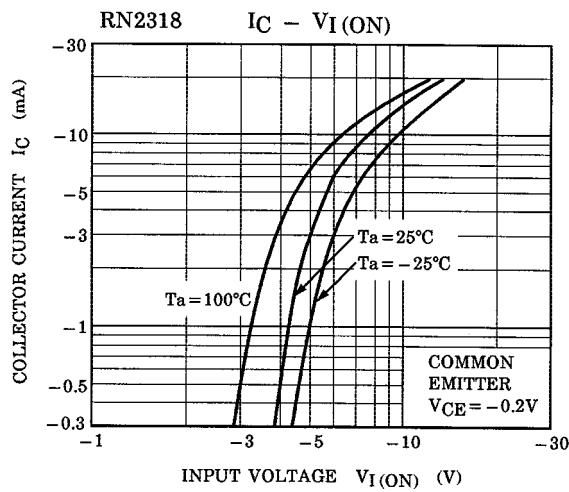
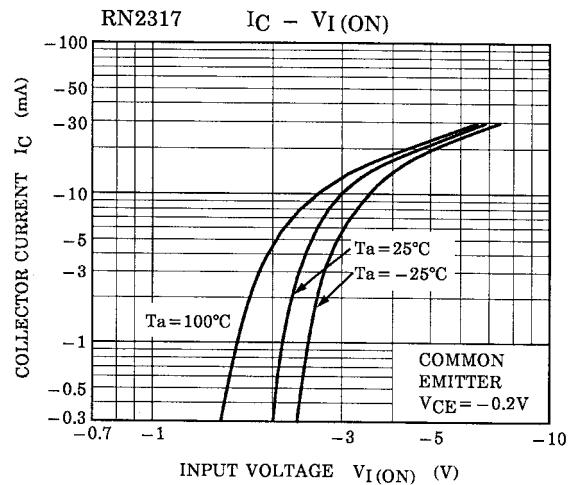
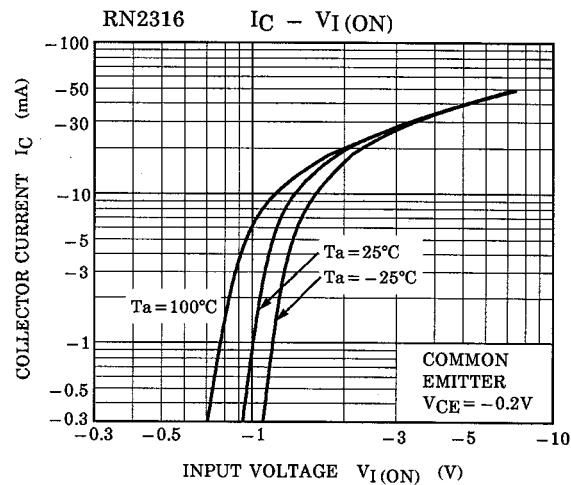
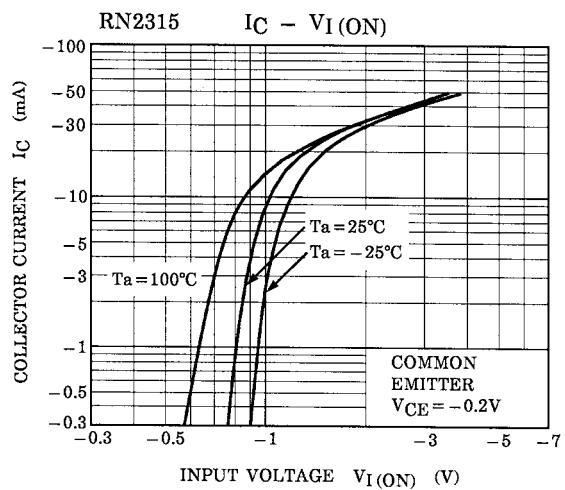
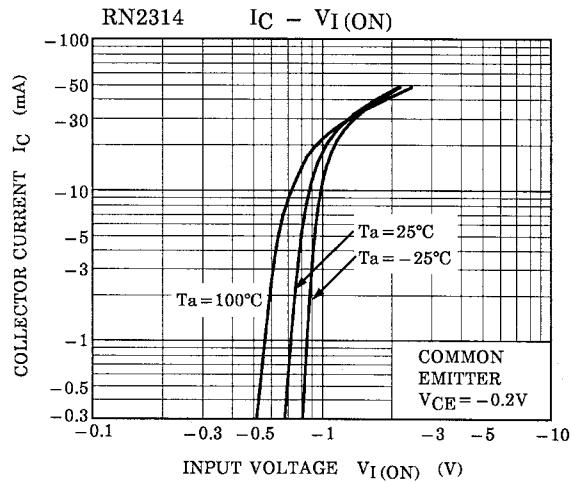
Type No.	R <sub>1</sub> (kΩ)	R <sub>2</sub> (kΩ)
RN2314	1	10
RN2315	2.2	10
RN2316	4.7	10
RN2317	10	4.7
RN2318	47	10

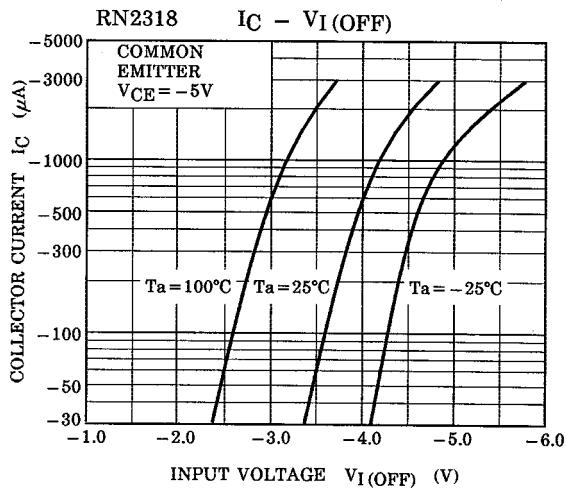
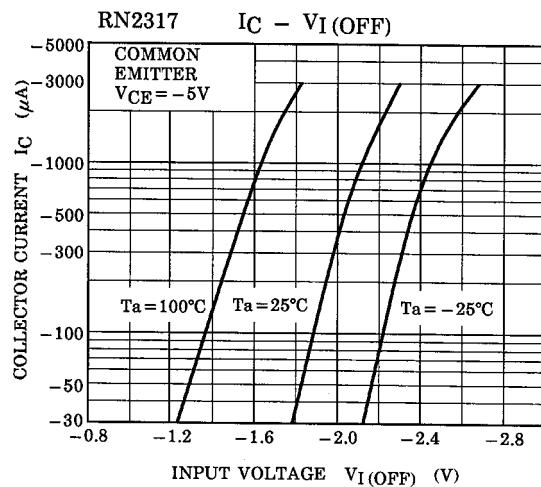
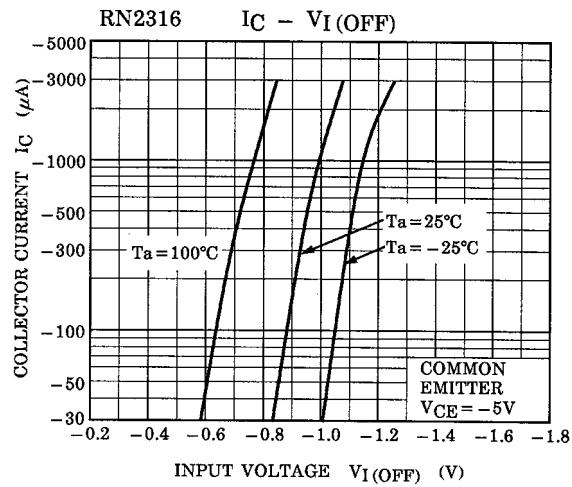
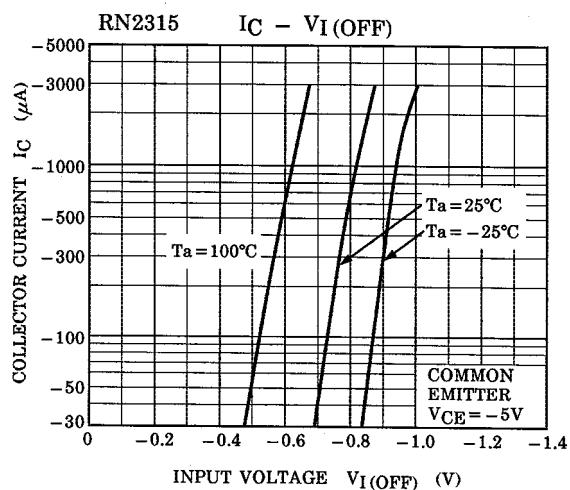
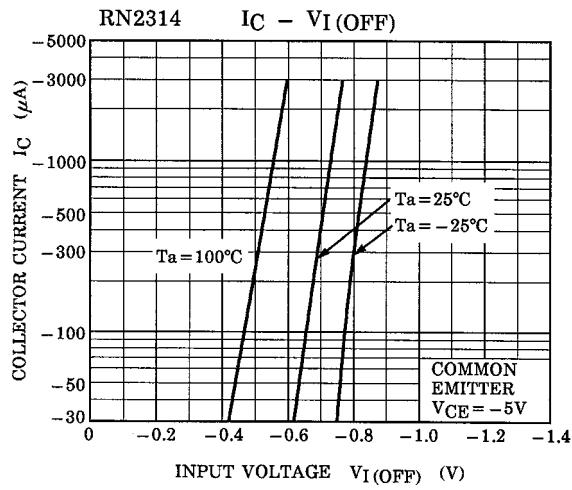
**Maximum Ratings (Ta = 25°C)**

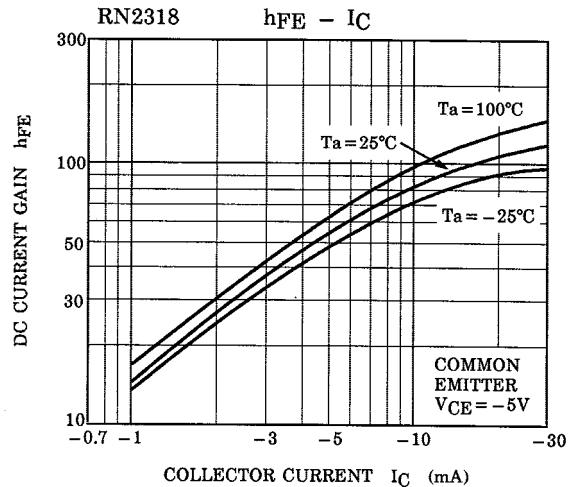
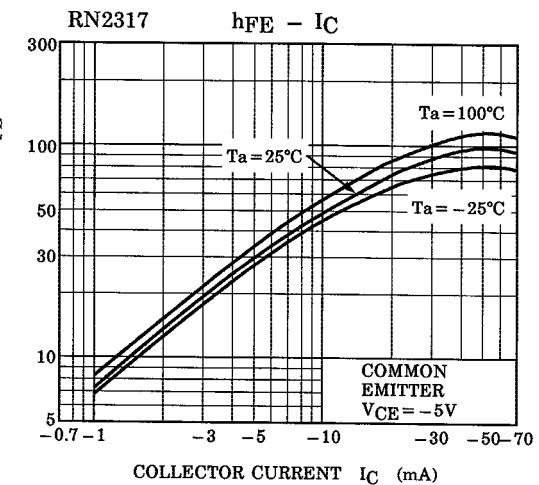
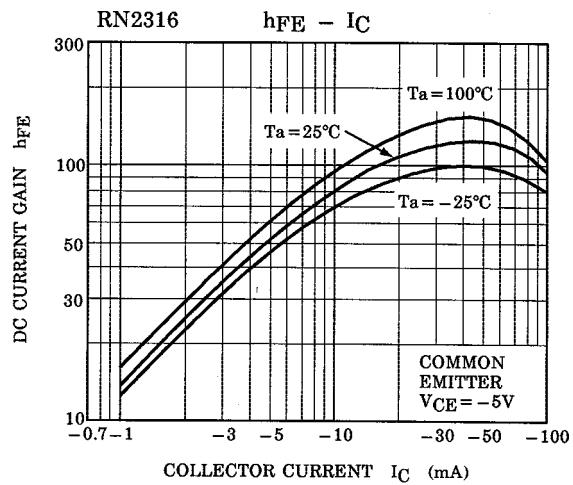
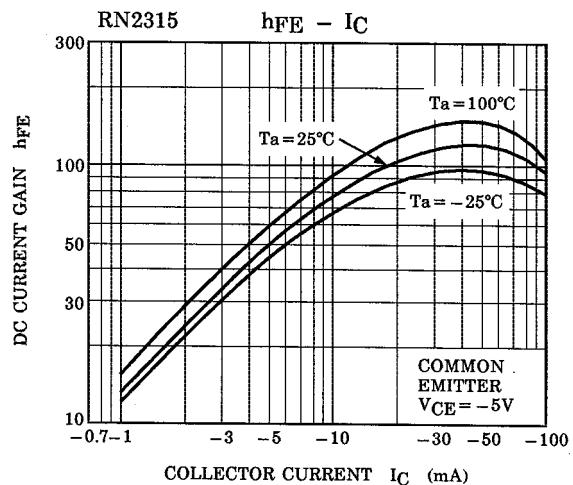
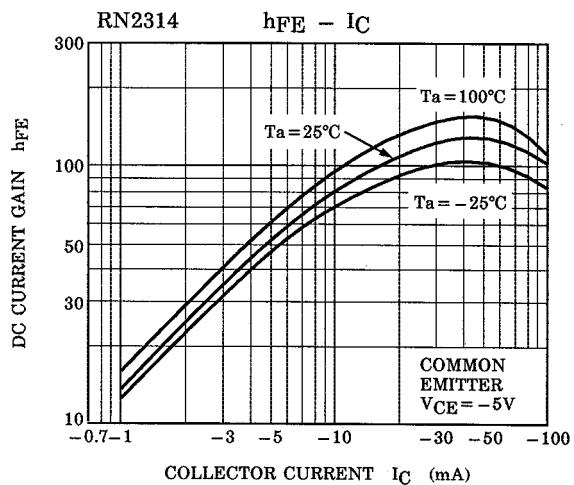
Characteristic		Symbol	Rating	Unit
Collector-base voltage	RN2314~2318	V <sub>CBO</sub>	-50	V
Collector-emitter voltage		V <sub>CEO</sub>	-50	V
Emitter-base voltage	RN2314~2318	V <sub>EBO</sub>	-5	V
			-6	
			-7	
			-15	
			-25	
Collector current	RN2314~2318	I <sub>C</sub>	-100	mA
Collector power dissipation		P <sub>C</sub>	100	mW
Junction temperature		T <sub>j</sub>	150	°C
Storage temperature range		T <sub>stg</sub>	-55~150	°C

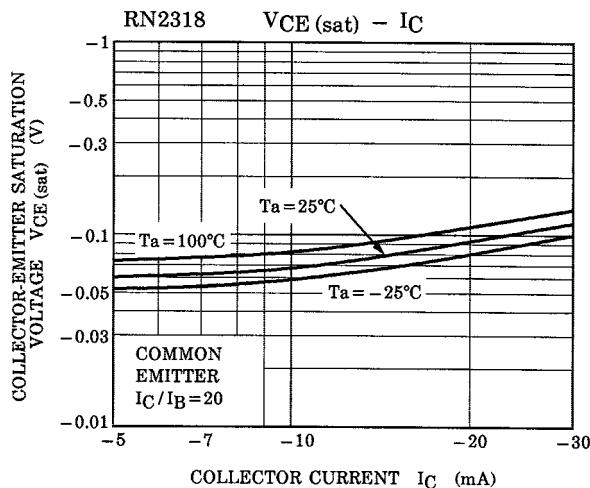
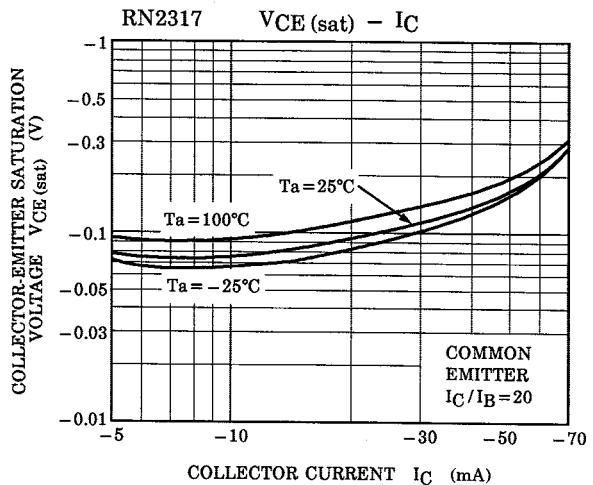
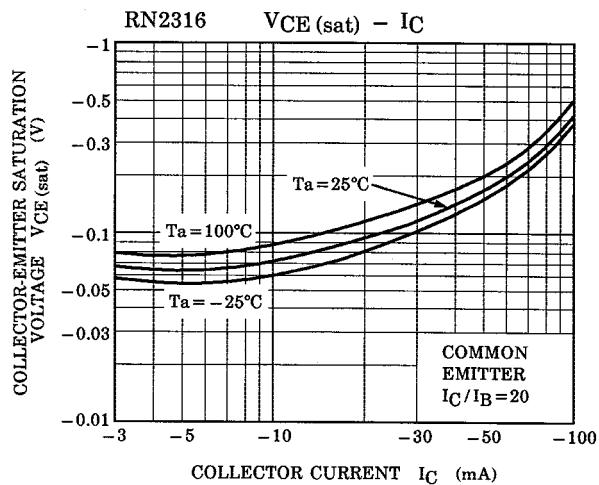
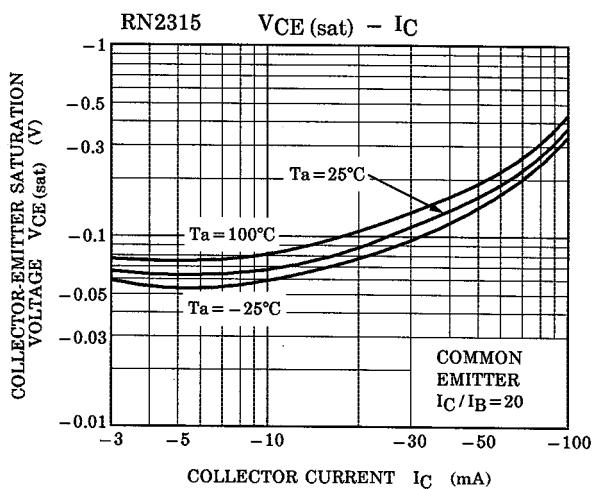
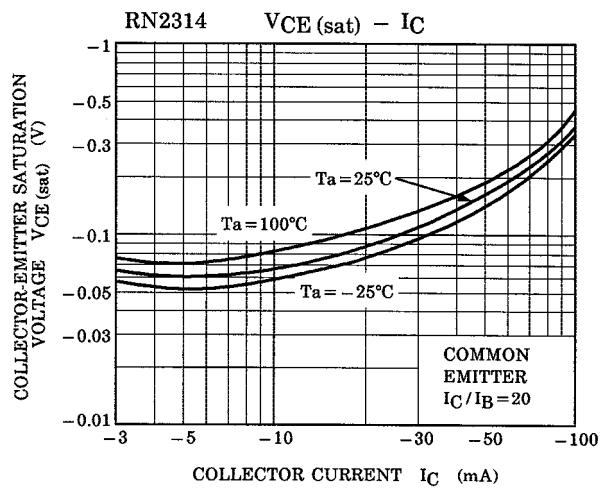
Electrical Characteristics ( $T_a = 25^\circ C$ )

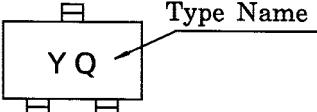
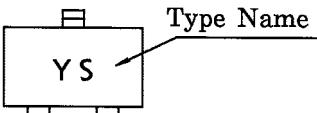
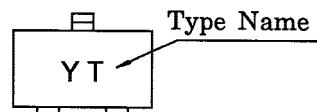
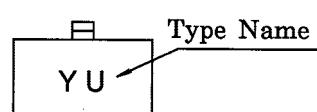
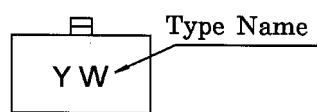
Characteristic		Symbol	Test Circuit	Test Condition		Min	Typ.	Max	Unit
Collector cut-off current	RN2314~2318	$I_{CBO}$	—	$V_{CB} = -50V$ , $I_E = 0$	—	—	-100	nA	
	RN2314~2318	$I_{CEO}$	—	$V_{CE} = -50V$ , $I_B = 0$	—	—	-500	nA	
Emitter cut-off current	RN2314	$I_{EBO}$	—	$V_{EB} = -5V$ , $I_C = 0$	-0.35	—	-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		
Translation 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 <sub>1</sub>	—	—	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 <sub>1</sub> /R <sub>2</sub>	—	—	—	0.1	—	—	
	RN2315		—		—	0.22	—		
	RN2316		—		—	0.47	—		
	RN2317		—		—	2.13	—		
	RN2318		—		—	4.7	—		









Type Name	Marking
RN2314	
RN2315	
RN2316	
RN2317	
RN2318	

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000707EAA

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