



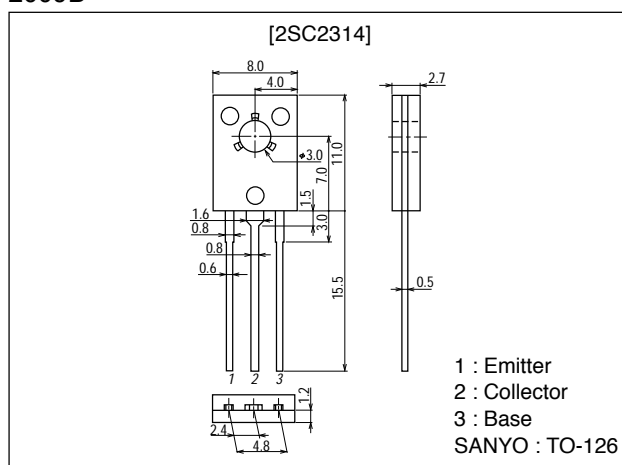
ON Semiconductor®

ON Semiconductor DATA SHEET

2SC2314 — NPN Epitaxial Planar Silicon Transistors 27MHz CB Transceiver Driver Applications

Package Dimensions

unit:mm
2009B



Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}	$R_{BE}=150\Omega$	75	V
Collector-to-Emitter Voltage	V_{CER}		75	V
Collector-to-Emitter Voltage	V_{CEO}		45	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		1.0	A
Collector Current (Pulse)	I_{CP}		1.5	A
Collector Dissipation	P_C		750	mW
		$T_c=25^\circ\text{C}$	5	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=40\text{V}, I_E=0$			1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			1.0	μA
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	75			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CER}$	$I_C=1\text{mA}, R_{BE}=150\Omega$	75			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, R_{BE}=\infty$	45			V

* : The 2SC2314 are classified by 500mA h_{FE} as follows :

Rank	D	E	F
h_{FE}	60 to 120	100 to 200	160 to 320

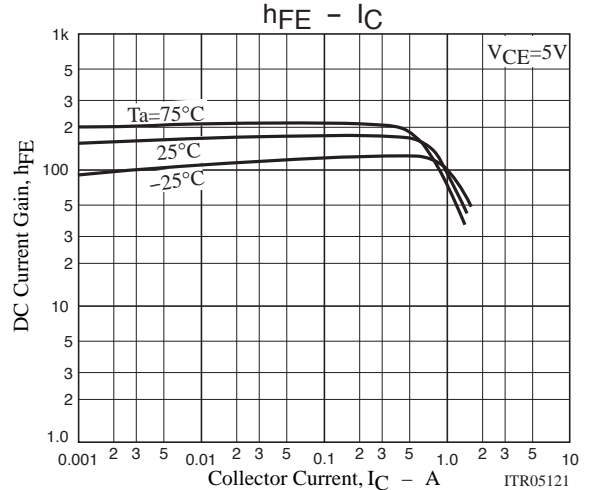
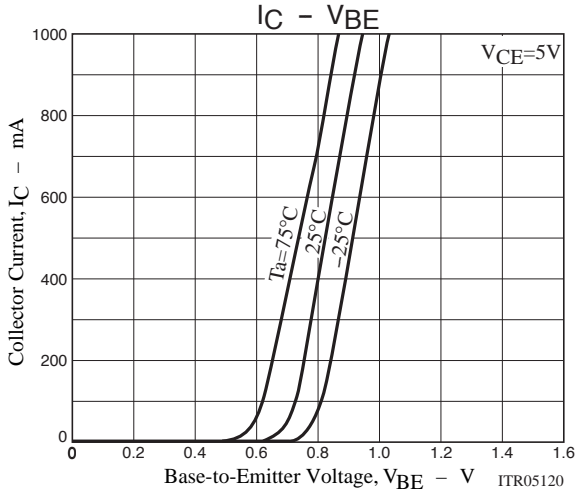
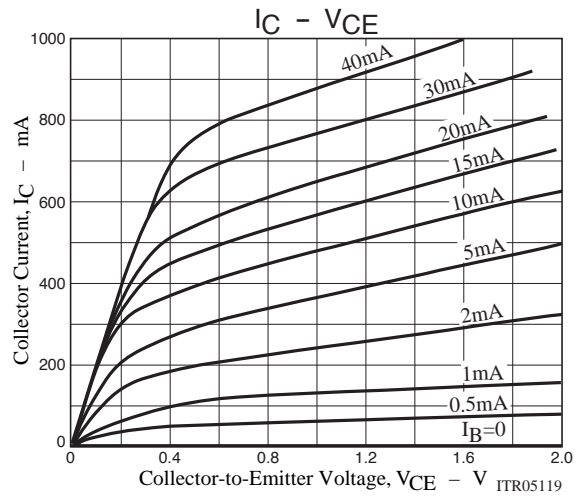
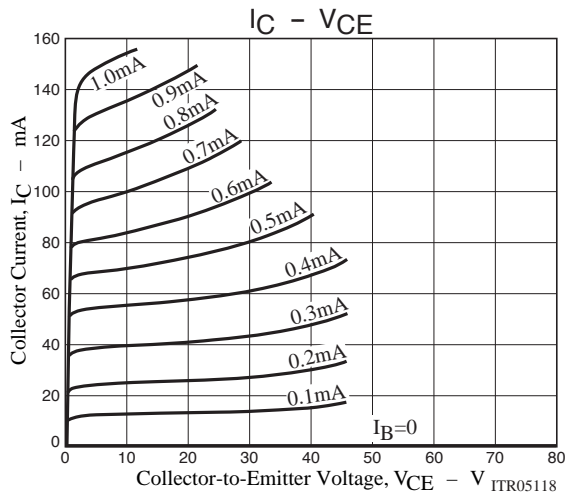
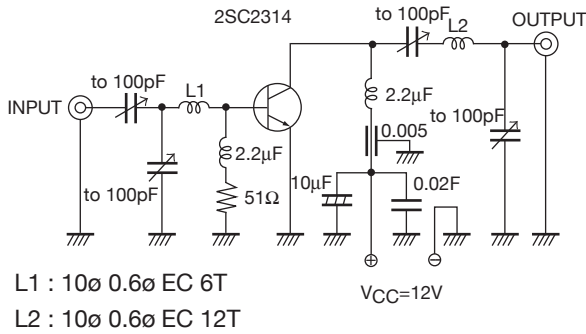
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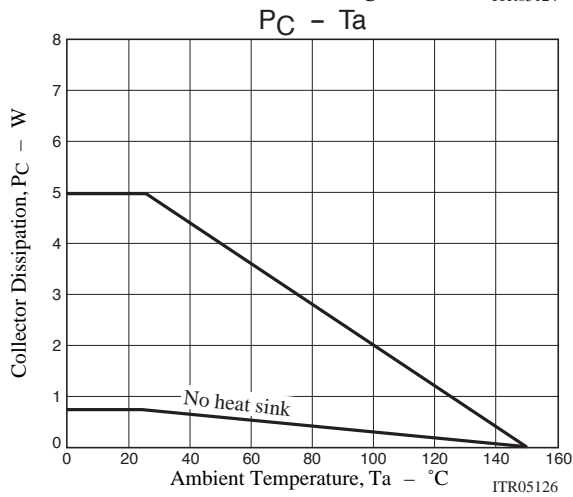
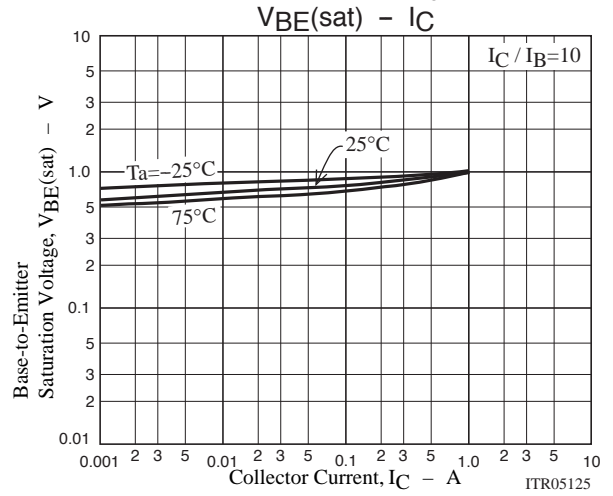
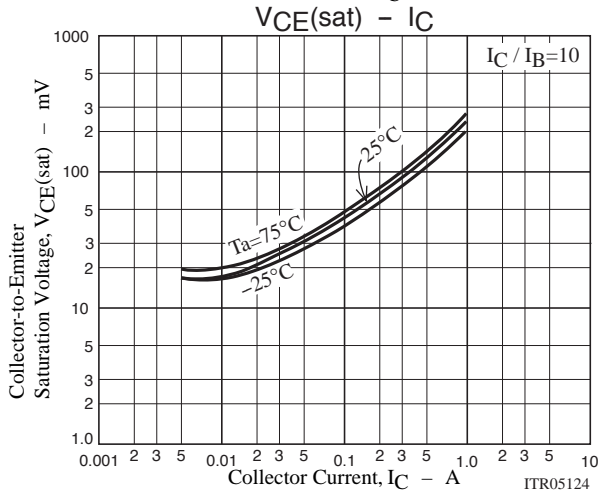
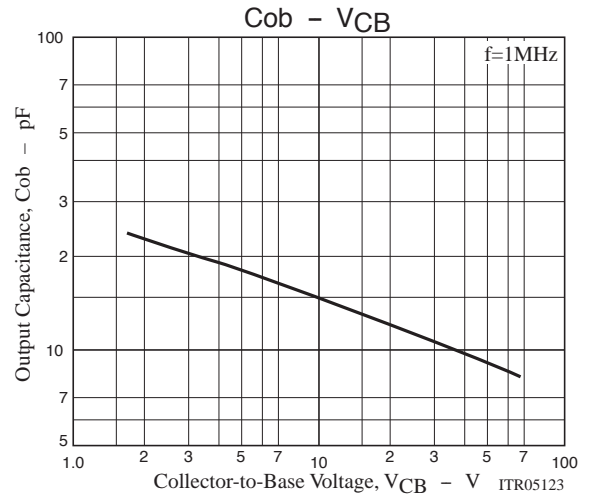
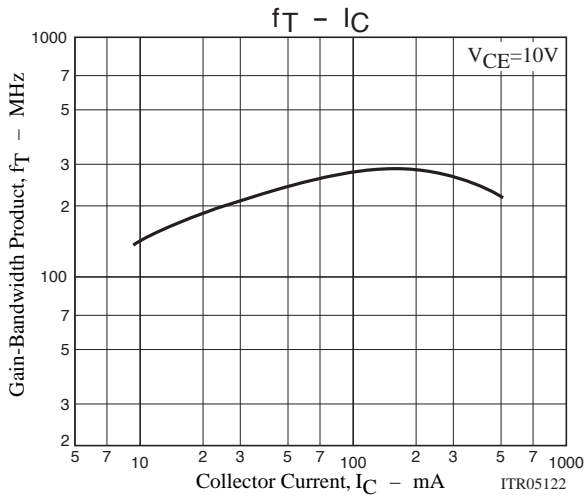
2SC2314

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5			V
DC Current Gain	h_{FE}	$V_{CE}=5V, I_C=500mA$	60*		320*	
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=50mA$	180	250		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		15	25	pF
Output Power	P_O	$V_{CC}=12V, f=27MHz, P_i=35mW$	1.0	1.8		W
Collector Efficiency	η_c	See specified test circuit.	60			%
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$		0.2	0.6	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$		0.9	1.2	V

Collector Efficiency Test Circuit





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