RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

CMBT9014

NPN SILICON PLANAR TRANSISTOR

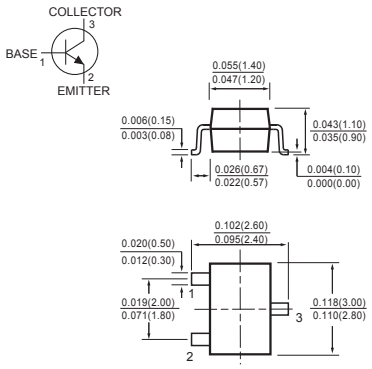
FEATURES

* Power dissipation
  P_C : 0.25□ W (Tamb=25°C)
* Collector current
  I_C : □0.1□ A
* Collector-base voltage
  V_{CBO} : □ 30□ V
* Operating and storage junction temperature range
  T_J,Tstg: -55°C to +150°C

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-O rate flame retardant
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 0.008 gram

SOT-23



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase , half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector-base Voltage	V_{CBO}	30	V
Collector-emitter Voltage	V_{CEO}	30	V
Emitter-base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	100	mA
Collector Dissipation	P_C	250	mW
Operation And Storage Junction	T_J, T_{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (@ TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNITS
Collector-base Voltage (I_C= 100μA, I_E=0)	V_{CBO}	30	-	-	V
Collector-emitter Voltage (I_C= 1mA, I_B=0)	V_{CEO}	30	-	-	V
Emitter-base Voltage (I_E= 100μA, I_C=0)	V_{EBO}	5.0	-	-	V
Collector Cut-off Current (V_{CB}= 30V, I_E=0)	I_{CBO}	-	-	15	nA
Emitter Cut-off Current (V_{EB}= 5V, I_C= 0)	I_{EBO}	-	-	500	nA
DC Current Gain (I_C= 1mA, V_{CE}= 5V)	h_{FE}	150	-	1000	-
Collector-emitter Saturation Voltage (I_C= 100mA, I_B= 5mA)	$V_{CE(sat)}$	-	-	0.60	V
Base-emitter Voltage ((I_C= 100mA, I_B= 5mA)	$V_{BE(sat)}$	-	-	1.2	V
Transition Frequency (V_{CE}= 5V, I_C= -10mA, f=100MHz)	f_T	125	-	-	MHz
Output Capacitance ((V_{CB}= 10V, f= 1MHz)	C_{ob}	-	-	3.5	pF
Noise Figure (V_{CE}= 5V, I_C= 200uA, f=1KHz)	NF	-	-	4.0	dB

CLASSIFICATION	CMBT9014	B	C	D
h_{FE}	150-1000	100-300	200-600	400-1000
Marking	14	14B	14C	14D

Note 1: "Fully ROHS compliant", "100% Sn plating (Pb-free)".

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