

NPN SILICON PLANAR TRANSISTOR

FEATURES

- * Power dissipation
P_c: 0.25 W (T_{amb}=25°C)
- * Collector current
I_c: 0.1 A
- * Collector-base voltage
V_{CB0}: 30 V
- * Operating and storage junction temperature range
T_J, T_{stg}: -55°C to +150°C

MECHANICAL DATA

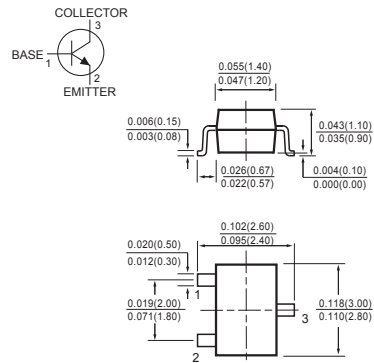
- * Case: Molded plastic
- * Epoxy: UL 94V-O rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.008 gram

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%.



SOT-23



Dimensions in inches and (millimeters)

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector-base Voltage	V _{CB0}	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 _{CB0}	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 _{CB0}	-	-	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 _r	125	-	-	MHz
Output Capacitance (V _{CB} = 10V, f= 1MHz)	C _{ob}	-	-	3.5	pF
Noise Figure (V _{CE} = 5V, I _C = 200μA, 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

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