SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2N4123

FOR GENERAL PURPOSE USE SWITCHING AND AMPLIFIER APPLICATIONS.

FEATURES:

. Low Leakage Current

: I_{CBO}=50nA(Max.) @ V_{CB}=20V

I_{EBO}=50nA(Max.) @ V_{EB}=3V

. Low Saturation Voltage

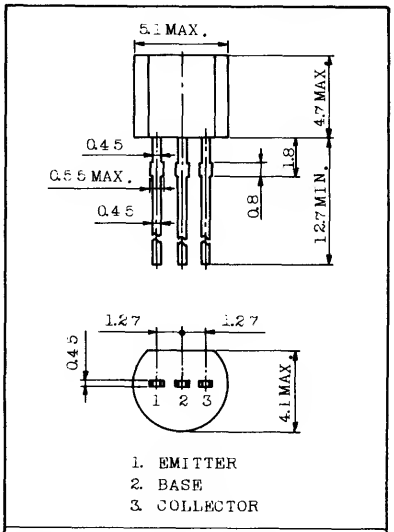
: $V_{CE(sat)}$=0.3V(Max.) @ I_C=50mA, I_B=5mA

. Low Collector Output Capacitance

: C_{ob}=4pF(Max.) @ V_{CB}=5V

. Complementary to 2N4125

Unit in mm



1. EMITTER
2. BASE
3. COLLECTOR

JEDEC	TO-92
EIAJ	SC-43
TOSHIBA	2-5F1F

Weight : 0.21g

MAXIMUM RATINGS (Ta=25°C)

	CHARACTERISTIC	SYMBOL	RATING	UNIT
※	Collector-Base Voltage	V_{CBO}	40	V
※	Collector-Emitter Voltage	V_{CEO}	30	V
※	Emitter-Base Voltage	V_{EBO}	5	V
※	Collector Current	I_C	200	mA
	Base Current	I_B	50	mA
※	Collector Power Dissipation (Ta=25°C) Derate Linearly 25°C	P_C	350	mW
			2.8	mW/°C
※	Collector Power Dissipation (Tc=25°C) Derate Linearly 25°C	P_C	1.0	W
			8	mW/°C
※	Thermal Reisstance (Junction to Ambient)	$R_{th(j-a)}$	357	°C/W
※	Thermal Resistance (Junction to Case)	$R_{th(j-c)}$	125	°C/W
※	Junction Temperature	T_j	150	°C
※	Storage Temperature Range	T_{stg}	-55 ~ 150	°C

※In accordance with JEDEC registration data.

ELECTRICAL CHARACTERISTICS (Ta=25°C)

	CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
※	Collector Cut-off Current	I_{CBO}	V_{CB}=20V, I_E=0	-	-	50	nA
※	Emitter Cut-off Current	I_{EBO}	V_{EB}=3V, I_C=0	-	-	50	nA
※	Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	40	-	-	V
※	Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	30	-	-	V
※	Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5	-	-	V
※	DC Current Gain	$h_{FE(1)}$	V_{CE}=1V, I_C=2mA	50	-	150	
		$h_{FE(2)}$	V_{CE}=1V, I_C=50mA	25	-	-	
※	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=50mA, I_B=5mA	-	-	0.3	V
※	Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=50mA, I_B=5mA	-	-	0.95	V
※	Small Signal Forward Current Transfer Ratio	$\lvert h_{fe} \rvert$	V_{CE}=20V, I_C=10mA, f=100MHz	2.5	-	-	
※	Transition Frequency	f_T	V_{CE}=20V, I_C=10mA f=100MHz	250	-	-	MHz
※	Collector Output Capacitance	C_{ob}	V_{CB}=5V, I_E=0, f=1MHz	-	-	4	pF
※	Input Capacitance	C_{ib}	V_{EB}=0.5V, I_C=0, f=1MHz	-	-	8	pF
※	Small Siganl Current Gain	h_{fe}	V_{CE}=10V, I_C=2mA, f=1kHz	50	-	200	
※	Noise Figure	NF	V_{CE}=5V, I_C=100μA, R_g=1kΩ, f=10Hz～15.7kHz	-	-	6	dB

※ In accordance with JEDEC registration data.