

2SC 3198
2SC 3198 Ⓛ

SILICON NPN TRANSISTOR
EPITAXIAL PLANAR TYPE (PCT PROCESS)

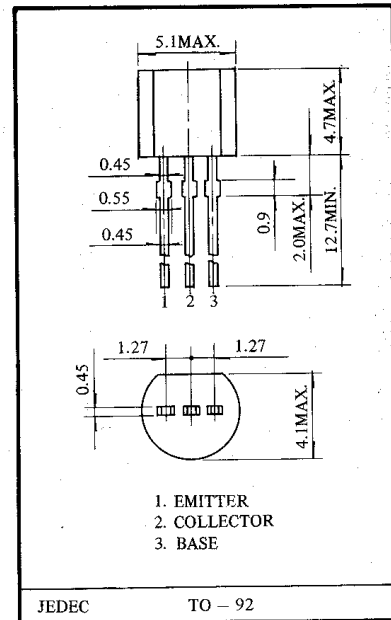
Unit in mm

APPLICATIONS

- Low Frequency Amplifiers
- Low Noise Amplifiers

FEATURES

- Excellent h_{FE} Linearity, $h_{FE}(0.1mA)/h_{FE}(2mA) = 0.95$ (Typ.)
- High h_{FE} (70~700).
- Excellent Safe Operation Area.
- Low Noise 2SC3198 NF=1dB (TYP), 10dB (Max).
 2SC3198Ⓛ NF=0.2dB (TYP), 3dB (Max).
- Complementary to the 2SA1266/2SA1266Ⓛ.



MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT	CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector - Base Voltage	V_{CBO}	60	V	Emitter Current	I_E	-150	mA
Collector - Emitter Voltage	V_{CEO}	50	V	Collector Power Dissipation	P_C	400	mW
Emitter - Base Voltage	V_{EBO}	5	V	Junction Temperature	T_j	125	$^\circ C$
Collector Current	I_C	150	mA	Storage Temperature Range	T_{stg}	-55~125	$^\circ C$

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut off Current	I_{CBO}	$V_{CB} = 60V, I_E = 0$	-	-	0.1	μA
Emitter Cut off Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	-	-	0.1	μA
DC Current Gain (1)	$h_{FE(1)}$	$V_{CE} = 6V, I_C = 2mA$	70	-	700	-
DC Current Gain (2)	$h_{FE(2)}$	$V_{CE} = 6V, I_C = 150mA$	25	-	-	-
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 10mA$	-	0.1	0.25	V
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100mA, I_B = 100mA$	-	-	0.1	V
Transition Frequency	f_T	$V_{CE} = 10V, I_E = -1mA$	80	-	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	2.0	3.0	pF
Base Spreading Resistance	$r_{bb'}$	$V_{CB} = 10V, I_E = -1mA, f = 30MHz$	-	50	-	Ω
Noise Figure	2SC3198	$V_{CE} = -6V, I_C = 0.1mA$ $R_g = 10k\Omega, f = 1 KHz$	-	1	10	dB
	2SC3198Ⓛ		-	0.2	3	

■ **NOTE: According to h_{FE} (1), Classified as follows**

O	70-140	Y	120~240	GR	200~400	BL	350~700
---	--------	---	---------	----	---------	----	---------