

2SC 3199
2SC 3199 (L)

=C2458

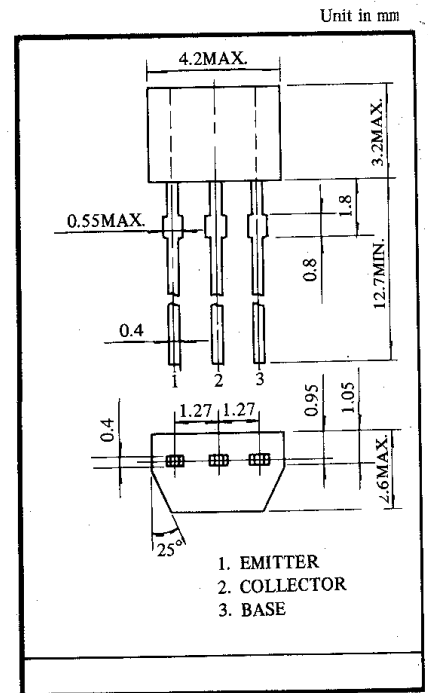
SILICON NPN TRANSISTOR
EPITAXIAL PLANAR TYPE (PCT PROCESS)

APPLICATIONS

- Audio Amplifier Applications.
- AM Amplifier Applications.

FEATURES

- High Current Capability : $I_C=150\text{mA}$ (Max.).
- High DC Current Gain : $h_{FE}=70\sim 700$.
- Excellent h_{FE} Linearity : $h_{FE}(0.1\text{mA})/h_{FE}(2\text{mA})=0.95$ (Typ.).
- Low Noise : $NF=1\text{dB}$ (Typ.), 10dB (Max.).
- Low Noise 2SA3199 $NF=1\text{dB}$ (TYP), 10dB (Max).
2SA3199(L) $NF=0.2\text{dB}$ (TYP), 3dB (Max.)
- Complementary to 2SA1267/2SA1267(L).
- Small Package.



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

CHARACTERISTIC	SYMBOL	RATING	UNIT	CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V	Emitter Current	I_E	-150	mA
Collector-Emitter Voltage	V_{CEO}	50	V	Collector Power Dissipation	P_C	200	mW
Emitter-Base Voltage	V_{EBO}	5	V	Junction Temperature	T_j	125	$^\circ\text{C}$
Collector Current	I_C	150	mA	Storage Temperature Range	T_{stg}	-55~125	$^\circ\text{C}$

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$	—	—	0.1	μA
DC Current Gain	$h_{FE(\text{Note})}$	$V_{CE}=6\text{V}, I_C=2\text{mA}$	70	—	700	
Collector-Emitter Saturation Voltage	$V_{CE(\text{sat})}$	$I_C=100\text{mA}, I_B=10\text{mA}$	—	0.1	0.25	V
Transition Frequency	f_T	$V_{CE}=10\text{V}, I_C=1\text{mA}$	80	—	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	—	2.0	3.5	pF
Noise Figure	2SC3199	$V_{CE}=6\text{V}, I_C=0.1\text{mA}$ $f=1\text{kHz}, R_g=10\text{k}\Omega$	—	1	10	dB
	2SC3199(L)		—	0.2	3	

NOTE: According to h_{FE} , Classified as follows.

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