

## DESCRIPTION

CL313, CL314 are complementary silicon planar epitaxial transistors for use AF small signal amplifiers and drivers.

## ABSOLUTE MAXIMUM RATINGS

		CL313	CL314
Collector-Base Voltage	$V_{CBO}$	60V	60V
Collector-Emitter Voltage	$V_{CEO}$	50V	60V
Emitter-Base Voltage	$V_{EBO}$	6V	5V
Collector Current	$I_C$	200mA	
Continuous Power Dissipation	$P_d$	300mW	
Operating & Storage Junction Temperature	$T_j, T_{stg}$	-55 to +150°C	

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

PARAMETER	SYMBOL	CL313			CL314			UNIT	TEST CONDITIONS
		MIN	TYP	MAX	MIN	TYP	MAX		
Collector-Base Breakdown Voltage	$BV_{CBO}$	60			60			V	$I_C=0.01\text{mA}$ $I_E=0$
Collector-Emitter Breakdown Voltage	$LV_{CEO}^*$	50			50			V	$I_C=2\text{mA}$ $I_B=0$
Emitter-Base Breakdown Voltage	$BV_{EBO}$	6			5			V	$I_E=0.01\text{mA}$ $I_C=0$
Collector Cutoff Current	$I_{CBO}$			15				nA	$V_{CB}=50\text{V}$ $I_E=0$
							15	nA	$V_{CB}=30\text{V}$ $I_E=0$
Emitter Cutoff Current	$I_{EBO}$			15			15	nA	$V_{EB}=4\text{V}$ $I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}^*$		0.05			0.05		V	$I_C=10\text{mA}$ $I_B=0.5\text{mA}$
			0.12	0.3		0.14	0.6	V	$I_C=100\text{mA}$ $I_B=5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}^*$		0.85	1.2		0.85	1.1	V	$I_C=100\text{mA}$ $I_B=5\text{mA}$
Base-Emitter Voltage	$V_{BE}^*$	0.55		0.72	0.55		0.72	V	$I_C=2\text{mA}$ $V_{CE}=5\text{V}$
D.C. Current Gain	$H_{FE}^*$		40			40			$I_C=10\mu\text{A}$ $V_{CE}=5\text{V}$
			110		450	60			$I_C=2\text{mA}$ $V_{CE}=5\text{V}$
			80			110			$I_C=100\text{mA}$ $V_{CE}=5\text{V}$
Current Gain-Bandwidth Product	$f_T$	150	220		100			MHz	$I_C=10\text{mA}$ $V_{CE}=5\text{V}$



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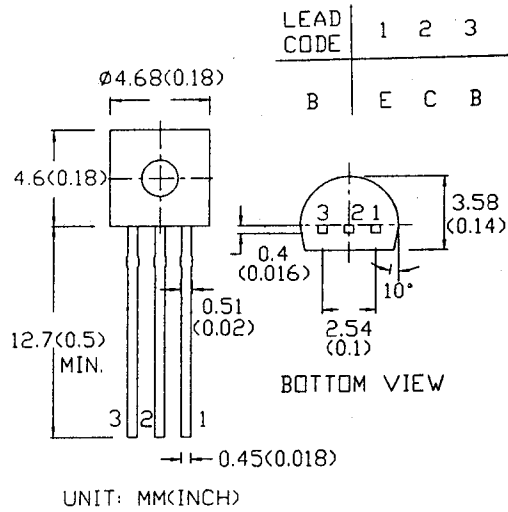
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		MIN	TYP	MAX	MIN	TYP	MAX		
Collector-Base Capacitance	Cob		3.7	5		5		pF	V <sub>CB</sub> =10V I <sub>E</sub> =0 f=1MHz
Gain Figure	NF		2	10		1.5	10	dB	I <sub>C</sub> =0.2mA V <sub>CE</sub> =5V R <sub>G</sub> =2K $\Omega$ f=1kHz $\Delta$ f=200Hz

\* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%

### TO-92B



### MELF-008

