

# 2N1099

## POWER TRANSISTOR

### ABSOLUTE MAXIMUM RATINGS

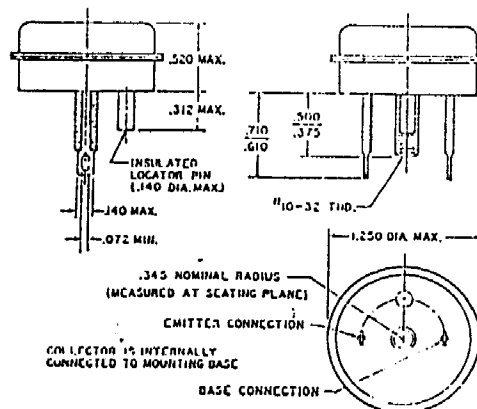
Collector diode voltage $V_{CB}$ ..... -80 volts	Base current (continuous) ..... 4 amp.
( $V_{EB} = -1.5$ volts)	Maximum junction temperature ..... 100 °C
Emitter diode voltage $V_{EB0}$ ..... -10 volts	Minimum junction temperature ..... -65 °C
Emitter current (continuous) ..... 15 amp.	

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

	Min.	Typical	Max.	
Collector diode current $I_{CBO}$ ( $V_{CB0} = -2$ volts) .....		100		microamp
Collector diode current $I_{CB}$ ( $V_{CB} = -80$ volts, $V_{EB} = -1.5$ volts) .....		.5	4	ma
Collector diode current $I_{CBO}$ ( $V_{CB0} = -80$ volts, $71^\circ\text{C}$ ) .....			15	ma
Emitter diode current $I_{EBO}$ ( $V_{EB0} = -10$ volts) .....		.25	4	ma
Current gain $h_{FE}$ ( $V_{CB} = -2$ volts, $I_C = 5$ amps) .....	35		70	
Current gain $h_{FE}$ ( $V_{CB} = -2$ volts, $I_C = 12$ amps) .....		25		
Base voltage $V_{EB}$ ( $V_{CB} = -2$ volts, $I_E = 5$ amps) .....		.65	.9	volt
Floating potential $V_{EBF}$ ( $V_{CB0} = -80$ volts, $I_E = 0$ ) .....		-.15	-.1	volt
Saturation voltage $V_{EC}$ ( $I_E = 2\text{A}$ , $I_C = 12$ amps) .....		.3	1.07	volt
Collector to emitter voltage $V_{CES}$ ( $I_C = 300$ ma, $V_{EB} = 0$ )° .....	-70			volts
Collector to emitter voltage $V_{CEO}$ ( $I_C = 1$ amp, $I_B = 0$ )° .....	-55			volts
Common emitter current amplification cutoff frequency $f_{\alpha}$ ( $I_C = 5$ amp, $V_{CE} = -6$ volts) .....		10		kes
Rise time ("on" $I_C = 12$ Adc, $I_B = 2$ amp, $V_{CE} = -12$ volts) .....		15		microsec
Fall time ("off" $I_C = 0$ , $V_{EB} = -6$ volts, $R_{EB} = 10\Omega$ ) .....		15		microsec

\*In order to avoid excessive heating of the collector junction, perform test with the sweep method.

### DIMENSIONS AND CONNECTIONS



NOTE: MAXIMUM RECOMMENDED TORQUE ON THE MOUNTING STUD IS TWELVE INCH-POUNDS.

