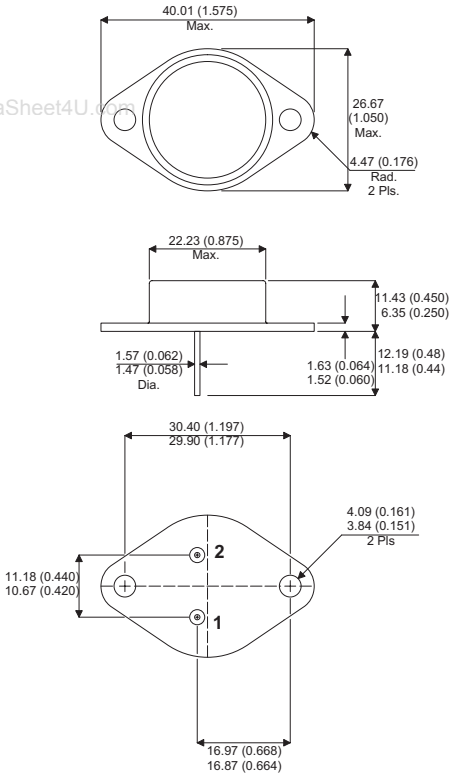
2N4398

MECHANICAL DATA
Dimensions in mm (inches)



TO-3 (TO-204AA)

Underside View

Pin 1 – Base Pin 2 – Emitter Pin 3 – Collector

MEDIUM POWER PNP SWITCHING TRANSISTOR FOR SWITCHING APPLICATIONS

FEATURES

- **SILICON PLANAR EPITAXIAL PNP TRANSISTOR**
- **CECC SCREENING OPTIONS**
- **SPACE QUALITY LEVELS OPTIONS**
- **JAN LEVEL SCREENING OPTIONS**

APPLICATIONS:

The 2N4398 is intended for use in power amplifier and switching circuits.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CEO}	Collector - Emitter Voltage (I_B =0)	40V
V_{CBO}	Collector - Base Voltage (I_E =0)	40V
V_{EBO}	Collector - Emitter Voltage (I_C =0)	5V
I_C	Collector Current	30A
I_{CM}	Collector Peak Current	50A
I_B	Base Current	7.5A
P_{TOT}	Total Power Dissipation @ T_{case} < 25°C	200W
T_j , T_{stg}	Maximum Junction And Storage Temperature	-65 to +200°C

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SEME LAB

2N4398

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
I_{EBO}	Emitter Cut-off Current	I_C=0	V_{EB}=5V			5	mA
I_{CBO}	Collector Cut-off Current	I_E=0	V_{EB}=40V			1	
I_{CEV}	Collector Cut-off Current (V_{BE}=-1.5V)	V_{CE}=40V				5	
		V_{CE}=30V	T_C=150°C			10	
I_{CEO}	Collector Cut-off Current	I_B=0	V_{CE}=40V			5	
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage	I_B=0	I_C=200mA	40			V
h_{FE}*	DC Current Gain	I_C=15A	V_{CE}=2V	15		60	—
		I_C=30A	V_{CE}=4V	5			
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C=10A	I_B=1A			0.75	V
		I_C=15A	I_B=1.5A			1.0	
		I_C=20A	I_B=2A			2.0	
		I_C=30A	I_B=6A			4.0	
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C=10A	I_B=1.0A			1.7	
		I_C=15A	I_B=1.5A			1.8	
		I_C=20A	I_B=2.0A			2.5	
V_{BE}*	Base-Emitter Voltage	I_C=15A	V_{CE}=2V			1.7	
		I_C=30A	V_{CE}=4V			3.0	
f_T	Transition Frequency	I_C=1A f=1MHz	V_{CE}=10V	4			MHz
h_{fe}	Small Signal Current Gain	I_C=1A f=1KHz	V_{CE}=10V	40			—
t_r	Rise Time	V_{CC}=30V	I_C=10A			1	µs
t_s	Storage Time	I_{B1}=-I_{B2}=1A				2	
t_f	Fall Time					1	
$R_{\theta JC}$	Thermal Resistance Junction - Case					0.875	°C/W

* Pulsed: Pulse Duration = 300µs, duty cycle = 1.5%

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