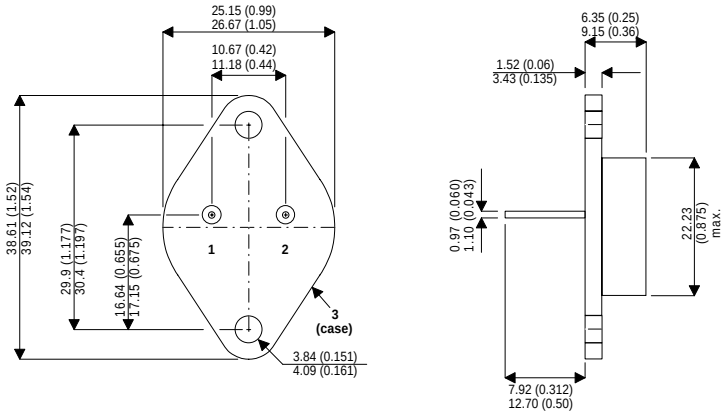
BUY24

SILICON PLANAR EPITAXIAL NPN POWER SWITCHING TRANSISTOR

MECHANICAL DATA
Dimensions in mm (inches)



FEATURES

- **CECC SCREENING OPTIONS**
- **SPACE QUALITY LEVELS OPTIONS**
- **JAN LEVEL SCREENING OPTIONS**

TO-3 PACKAGE (TO-204AA)

Underside View

PAD 1 – Base PAD 2 – Emitter PAD 3 – Collector

APPLICATIONS:

The BUY24 is a silicon planar epitaxial NPN transistor in a TO-3 (TO-204AA) metal case. It is suitable for switching applications up to 5A.

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

V_{CBO}	Collector - Base Voltage (I_E = 0)	120V
V_{CEO}	Collector - Emitter Voltage (I_B = 0)	60V
V_{EBO}	Emitter - Base Voltage (I_C = 0)	6V
I_C	Collector Current	5A
P_{tot}	Total Power Dissipation at T_{case} < 75°C	15W
R_{JC}	Thermal Resistance Junction To Case	5°C/W
T_{STG}	Storage Temperature	-55 to +150°C
T_J	Junction Temperature	150°C

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BUY24

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

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector-Cutoff Current	V_{CB}=60V	I_E=0			10	µA
			T_C=125°C			1	mA
$V_{(BR)CEO}$*	Collector-Emitter Breakdown Voltage	I_C=50mA	I_B=0	60			V
$V_{(BR)CBO}$*	Collector-Base Breakdown Voltage	I_C=1mA	I_E=0	120			
$V_{(BR)EBO}$*	Emitter-Base Breakdown Voltage	I_E=1mA	I_C=0	6			
$V_{CE\ (sat)}$*	Collector-Emitter Saturation Voltage	I_C=2A	I_B=0.2A		0.15	0.6	
		I_C=5A	I_B=0.5A		0.4	1.0	
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C=2A	I_B=0.2A		0.9	1.2	
		I_C=5A	I_B=0.5A		1.1	1.3	
h_{FE}*	DC Current Gain	I_C=0.5A	V_{CE}=2V	45	100		—
		I_C=2A	V_{CE}=2V	40	85		
		I_C=5A	V_{CE}=2V		40		
f_T	Transition Frequency	I_C=0.5A	V_{CE}=5V		100		MHz
C_{CBO}	Collector-Base Capacitance	I_E=0	V_{CB}=10V		35	80	pF
t_{on}	Turn-on Time	I_C=5A	I_{B1}=0.5A		150	350	ns
t_{off}	Turn-off Time	I_C=5A	I_{B1}= I_{B2}=0.5A		350	650	
h_{fe}	Small Signal Current Gain	I_C=0.5A f=20MHz	V_{CE}=5V	2.5	5		—

* Pulsed: Pulse Duration = 300µs, duty cycle = 1.0%

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