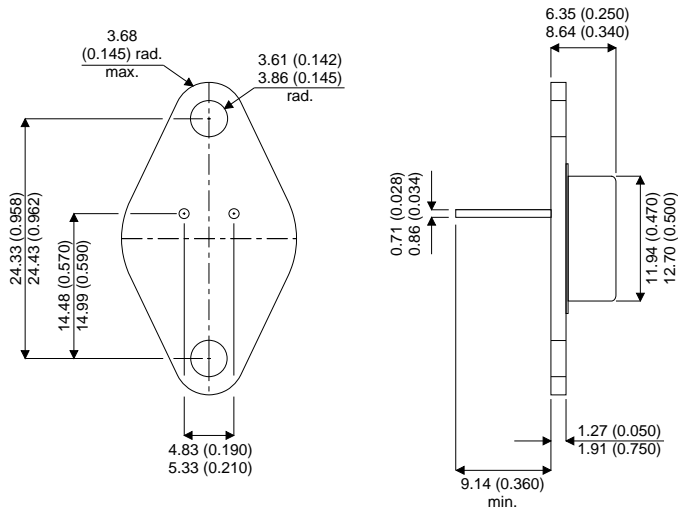


MECHANICAL DATA

Dimensions in mm (inches)

**MEDIUM POWER
NPN SILICON TRANSISTOR**



Designed for switching and wide - band amplifier applications

This product is available screened in accordance with various military specs.

EG. 2N5430CECC-QR-B
Built and screened in accordance with CECC procedures.
Screened to sequence B.

TO66 Package.

- Pin 1 Base
- Pin 2 Emitter
- Case Collector

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{CEO}	Collector – Emitter Voltage	100 V
V_{CBO}	Collector – Base Voltage	100 V
V_{EBO}	Emitter – Base Voltage	6 V
I_C	Collector Current – Continuous	7 A
I_B	Base Current	1 A
P_D	Total Device Dissipation at $T_{case} = 25^{\circ}C$	40 W
	Derate above $25^{\circ}C$	228 mW / $^{\circ}C$
T_j	Operating and	
T_{stg}	Storage Junction Temperature Range	-65 to $200^{\circ}C$
$R_{\theta JC}$	Thermal Resistance, Junction to Case.	4.37 $^{\circ}C / W$

OFF CHARACTERISTICS

Parameter	Test Conditions	Min	Max	Unit
$BV_{CEO(sus)}$ * Collector – Emitter Sustaining Voltage	$I_C = 50\text{mA}, I_B = 0$	100		V
I_{CBO} Collector Cutoff Current	$V_{CE} = 90\text{V}, I_B = 0$		100	μA
I_{CEX} Collector Cutoff Current	$V_{CE} = 90\text{V}, V_{EB(off)} = 1.5\text{V}$		10	μA
	$V_{CE} = 90\text{V}, V_{EB(off)} = 1.5\text{V}, T_C = 150^\circ\text{C}$		1.0	mA
I_{CBO} Collector Cutoff Current	$V_{CB} = \text{Rated } V_{CB}, I_E = 0$		10	μA
I_{EBO} Emitter Cutoff Current	$V_{BE} = 6\text{V}, I_C = 0$		100	μA

ON CHARACTERISTICS

Parameter	Test Conditions	Min	Max	Unit
h_{FE} * DC Current Gain	$I_C = 500\text{mA}, V_{CE} = 2\text{V}$	60		—
	$I_C = 2\text{A}, V_{CE} = 2\text{V}$	60	240	
	$I_C = 5\text{A}, V_{CE} = 2\text{V}$	40		
$V_{CE(sat)}$ * Collector – Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.2\text{A}$		0.7	V
	$I_C = 7\text{A}, I_B = 0.7\text{A}$		1.2	
$V_{BE(sat)}$ * Base – Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.2\text{A}$		1.2	V
	$I_C = 7\text{A}, I_B = 0.7\text{A}$		2.0	

DYNAMIC CHARACTERISTICS

Parameter	Test Conditions	Min	Max	Unit
f_T Current Gain Bandwidth Product	$I_C = 500\text{mA}, V_{CE} = 10\text{V}, f = 10\text{MHz}$	30		MHz
C_{ob} Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 100\text{kHz}$		250	pF
C_{ib} Input Capacitance	$V_{BE} = 2\text{V}, I_C = 0, f = 100\text{kHz}$		1000	pF

SWITCHING CHARACTERISTICS

Parameter	Test Conditions	Min	Max	Unit
t_d Delay Time	$V_{CC} = 40\text{V}, V_{EB(off)} = 3\text{V}$		100	ns
t_r Rise Time	$I_C = 2\text{A}, I_{B1} = 200\text{mA}$		100	ns
t_s Storage Time	$V_{CC} = 40\text{V}, I_C = 2\text{A}$		2.0	μs
t_f Fall Time	$I_{B1} = I_{B2} = 200\text{mA}$		200	ns

* Pulse Test: Pulse width = 300 μs , Duty Cycle = 2.0 %