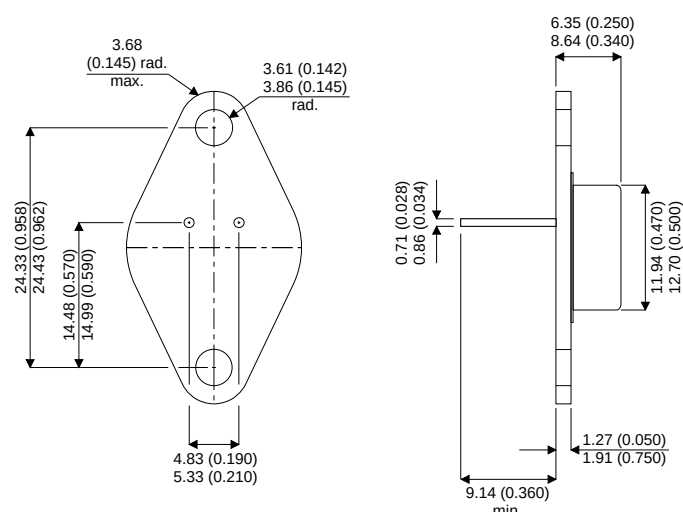


MECHANICAL DATA

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	–65 to $200^{\circ}C$
T_{stg}	Storage Junction Temperature Range	
$R_{\theta JC}$	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	$I_C = 50mA, I_B = 0$	100		V
I_{CBO} Collector Cutoff Current	$V_{CE} = 90V, I_B = 0$		100	μA
I_{CEX} Collector Cutoff Current	$V_{CE} = 90V, V_{EB(off)} = 1.5V$		10	μA
	$V_{CE} = 90V, V_{EB(off)} = 1.5V, T_C = 150^\circ C$		1.0	mA
I_{CBO} Collector Cutoff Current	$V_{CB} = \text{Rated } V_{CB}, I_E = 0$		10	μA
I_{EBO} Emitter Cutoff Current	$V_{BE} = 6V, I_C = 0$		100	μA

ON CHARACTERISTICS

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

DYNAMIC CHARACTERISTICS

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

SWITCHING CHARACTERISTICS

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

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