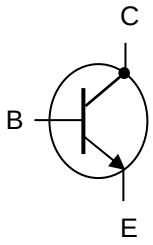
2N5681 – 2N5682

NPN SWITCHING TRANSISTORS

The 2N5681 and 2N5682 are silicon expitaxial planar PNP transistors in jedec TO-39 metal case.
They are intended for use as drivers for high power transistors in general purpose, amplifier and switching circuit.
The complementary PNP types are the 2N5679 and 2N5680 .
Compliance to RoHS.



ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value		Unit
			25681	2N5682	
V_{CEO}	Collector-Emitter Voltage	I_B =0	100	120	V
V_{CBO}	Collector-Base Voltage	I_E =0	100	120	V
V_{EBO}	Emitter-Base Voltage	I_C =0	4		V
I_C	Collector Current		1		A
I_B	Base Current		500		mA
P_D	Total Power Dissipation	T_{amb} = 25°C	1		W
		T_{case} = 25°C	10		
T_J	Junction Temperature		200		°C
T_{Stg}	Storage Temperature range		-65 to +150		

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-a}	Thermal Resistance, Junction to ambient	175	°C/W
R_{thJ-c}	Thermal Resistance, Junction to case	17.5	°C/W

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ELECTRICAL CHARACTERISTICS

Tj=25°C unless otherwise specified

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
I_{CBO}	Collector Cutoff Current	V_{CB} = 100 V, I_E = 0	2N5679	-	-	1	µA
		V_{CB} = 120 V, I_E = 0	2N5680				
I_{CEO}	Collector Cutoff Current	V_{CE} = 70 V, I_B = 0	2N5679	-	-	10	µA
		V_{CE} = 80 V, I_B = 0	2N5680				
I_{CEV}	Collector Cutoff Current	V_{CE} = 100 V, V_{BE} = -1.5 V	2N5679	-	-	1	µA
		V_{CE} = 120 V, V_{BE} = -1.5 V	2N5680				
		V_{CE} = 100 V, V_{BE} = -1.5 V T_C = 150°C	2N5679	-	-	1	mA
		V_{CE} = 120 V, V_{BE} = -1.5 V T_C = 150°C	2N5680				
I_{EBO}	Emitter Cutoff Current	V_{BE} = 4.0 V, I_C = 0	2N5679	-	-	1	µA
			2N5680				
$V_{CEO(sus)}$	Collector Emitter Sustaining voltage (*)	I_C = 10 mA, I_B = 0	2N5679	100	-	-	V
			2N5680	120	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C = 250 mA I_B = 25 mA	2N5679	-	-	0.6	V
			2N5680				
		I_C = 500 mA I_B = 50 mA	2N5679	-	-	1	
			2N5680				
		I_C = 1 A I_B = 200 mA	2N5679	-	-	2	
			2N5680				
V_{BE}	Base-Emitter Voltage (*)	I_C = 250 mA, V_{CE} = 2 V	2N5679	-	-	1	V
			2N5680				
h_{FE}	DC Current Gain (*)	I_C = 250 mA, V_{CE} = 2 V	2N5679	40	-	150	
			2N5680				
		I_C = 1 A, V_{CE} = 2 V	2N5679	5	-	-	
			2N5680				
f_T	Transition frequency	I_C = 100 mA, V_{CE} = 10 V f = 10 MHz	2N5679	30	-	-	MHz
			2N5680				
C_{OB}	Output Capacitance	I_E = 0, V_{CB} = 20 V f = 1MHz	2N5679	-	-	50	pF
			2N5680				
h_{fe}	Small Signal Current Gain	I_C = 200 mA, V_{CE} = 1.5 V f = 1 kHz	2N5679	40	-	-	-
			2N5680				

(*) Pulse Width ≈ 300 µs, Duty Cycle ∠ 2.0%

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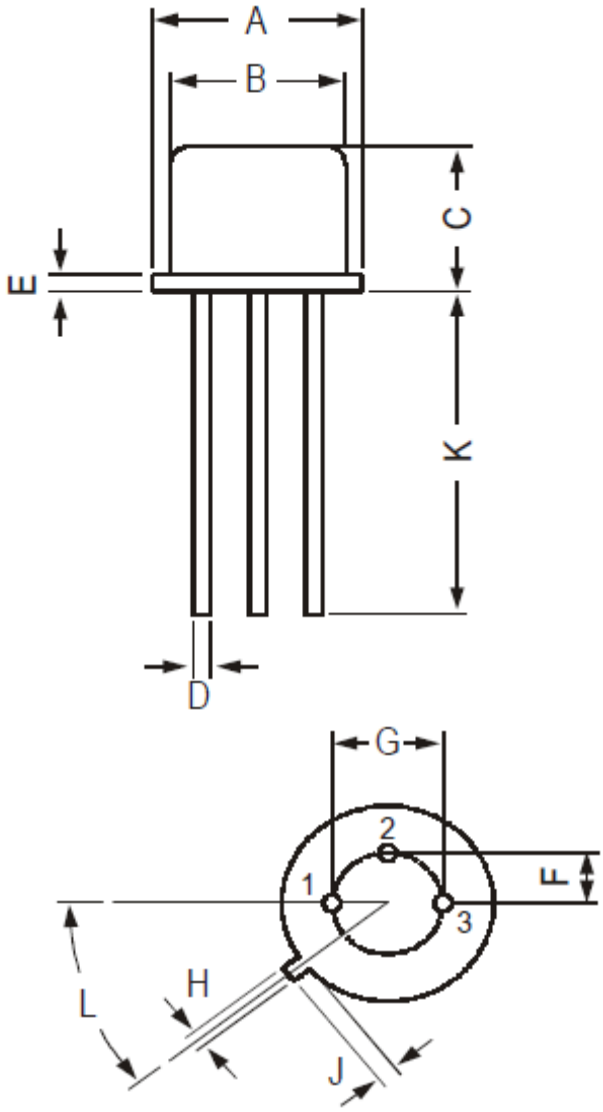
MECHANICAL DATA CASE TO-39

DIMENSIONS (mm)		
	min	max
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	-	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	-
L	42°	48°



Pin 1 :	Emitter
Pin 2 :	Base
Pin 3 :	Collector
Case :	Collector

Revised August 2012