

SILICON PNP TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR

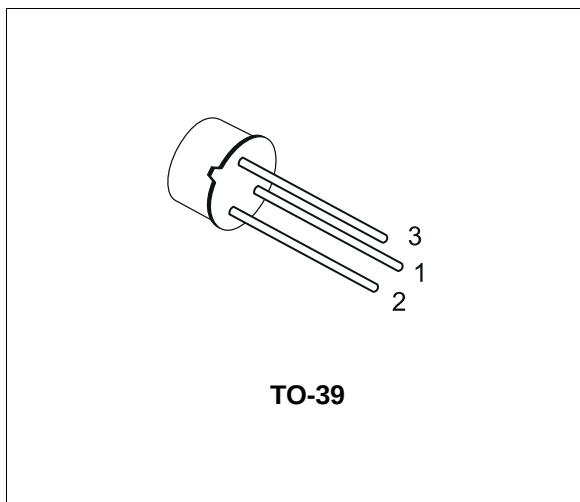
APPLICATIONS

- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIERS

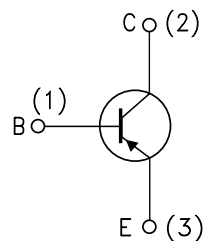
DESCRIPTION

The 2N5680 is high voltage silicon epitaxial planar PNP transistors in Jedec TO-39 metal case intended for use as drivers for high power transistors in general purpose, amplifier and switching circuit.

The 2N5680 complementary NPN type is the 2N5682.



INTERNAL SCHEMATIC DIAGRAM



SC08810

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	-120	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	-120	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	-4	V
I_C	Collector Current	-1	A
I_B	Base Current	-0.5	A
P_{tot}	Total Dissipation at $T_C \leq 25^\circ\text{C}$	10	W
P_{tot}	Total Dissipation at $T_{amb} \leq 50^\circ\text{C}$	1	W
T_{stg}	Storage Temperature	-65 to 200	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	200	$^\circ\text{C}$

2N5680

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	17.5	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	175	°C/W

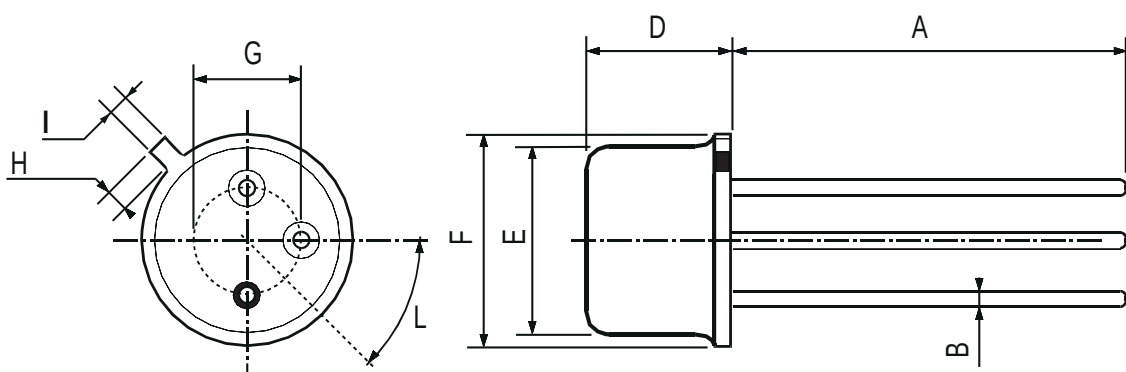
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CEV}	Collector Cut-off Current (V _{BE} = -1.5V)	for 2N5679 V _{CE} = -100 V			-1	μA
		for 2N5680 V _{CE} = -120 V			-1	μA
		T _c = 150 °C				
		for 2N5679 V _{CE} = -100 V			-1	μA
I _{CBO}	Collector Cut-off Current (I _E = 0)	for 2N5679 V _{CB} = -100 V			-1	μA
		for 2N5680 V _{CB} = -120 V			-1	μA
I _{CEO}	Collector Cut-off Current (I _B = 0)	for 2N5679 V _{CB} = -70 V			-10	μA
		for 2N5680 V _{CB} = -80 V			-10	μA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = -4 V			-1	μA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage	I _C = -10 mA for 2N5679 for 2N5680	-100 -120			V V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = -250 mA I _B = -25 mA			-0.6	V
		I _C = -500 mA I _B = -50 mA			-1	V
		I _C = -1 A I _B = -200 mA			-2	V
V _{BE*}	Base-Emitter Voltage	I _C = -250 mA V _{CE} = -2 V			-1	V
h _{FE*}	DC Current Gain	I _C = -250 mA V _{CE} = -2 V	40		150	
		I _C = -1 A V _{CE} = -2 V	5			
h _{fe}	Small Signal Current Gain	I _C = -0.2 A V _{CE} = -1.5 V f = 1KHz	40			
f _T	Transition frequency	I _C = -100 mA V _{CE} = -10 V f = 10MHz	30			MHz
C _{CBO}	Collector Base Capacitance	I _E = 0 V _{CB} = -20 V f = 1MHz			50	pF

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

TO-39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45° (typ.)					



P008B

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