SGS-THOMSON MICROELECTRONICS

2N5679
2N5680

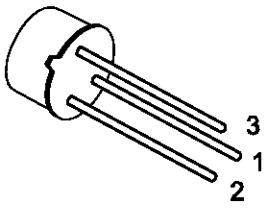
HIGH VOLTAGE PNP SILICON TRANSISTOR

- 2N5680 IS SGS-THOMSON PREFERRED SALESTYPE

DESCRIPTION

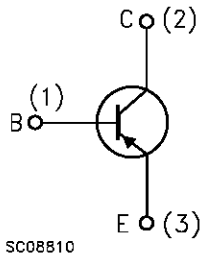
The 2N5679, 2N5680 are high voltage silicon epitaxial planar PNP transistors in Jedec TO-39 metal case intended for use as drivers for high power transistors in general purpose, amplifier and switching circuit.

The complementary NPN types are the 2N5681 and 2N5682 respectively.



TO-39

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		2N5679	2N5680	
V_{CBO}	Collector-Base Voltage (I_E = 0)	-100	-120	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	-100	-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 $T_c \leq 25\ ^oC$	10		W
P_{tot}	Total Dissipation at $T_{amb} \leq 50\ ^oC$	1		W
T_{stg}	Storage Temperature	-65 to 200		^oC
T_j	Max. Operating Junction Temperature	200		^oC

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case Max	17.5	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient Max	175	°C/W

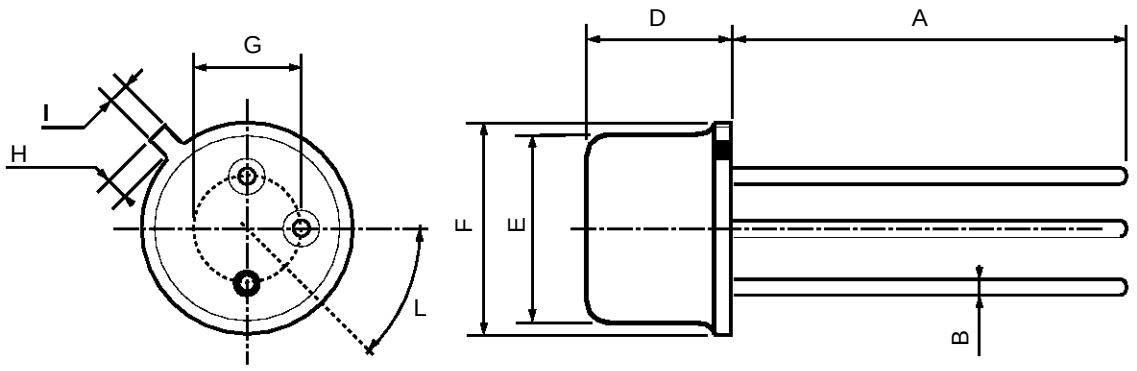
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEV}	Collector Cut-off Current (V_{BE} = -1.5V)	for **2N5679** V_{CE} = -100 V for **2N5680** V_{CE} = -120 V T_c = 150 °C for **2N5679** V_{CE} = -100 V for **2N5680** V_{CE} = -120 V			-1 -1 -1 -1	µA µA µA µA
I_{CBO}	Collector Cut-off Current (I_E = 0)	for **2N5679** V_{CB} = -100 V for **2N5680** V_{CB} = -120 V			-1 -1	µA µA
I_{CEO}	Collector Cut-off Current (I_B = 0)	for **2N5679** V_{CB} = -70 V for **2N5680** V_{CB} = -80 V			-10 -10	µA 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 I_C = -500 mA I_B = -50 mA I_C = -1 A I_B = -200 mA			-0.6 -1 -2	V V 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 I_C = -1 A V_{CE} = -2 V	40 5		150	
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 %

TO39 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^{o} (typ.)					



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