SO2907AW

SMALL SIGNAL PNP TRANSISTOR

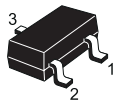
PRELIMINARY DATA

Type	Marking
SO2907AW	03W

- SILICON EPITAXIAL PLANAR PNP TRANSISTOR
- MINIATURE SOT-323 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE & REEL PACKING
- THE NPN COMPLEMENTARY TYPE IS SO2222AW

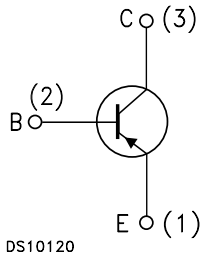
APPLICATIONS

- WELL SUITABLE FOR PORTABLE EQUIPMENT
- SMALL LOAD SWITCH TRANSISTOR WITH HIGH GAIN AND LOW SATURATION VOLTAGE



SOT-323

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Emitter Voltage (I_E = 0)	-60	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	-60	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	-5	V
I_C	Collector Current	-0.6	A
I_{CM}	Collector Peak Current (t_p < 5 ms)	-0.8	A
P_{tot}	Total Dissipation at T_{amb} = 25 °C	200	mW
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

THERMAL DATA

$R_{thj\text{-}amb}$ •	Thermal Resistance Junction-Ambient	Max	625	$^oC/W$

• Device mounted on a PCB area of 1 cm^2

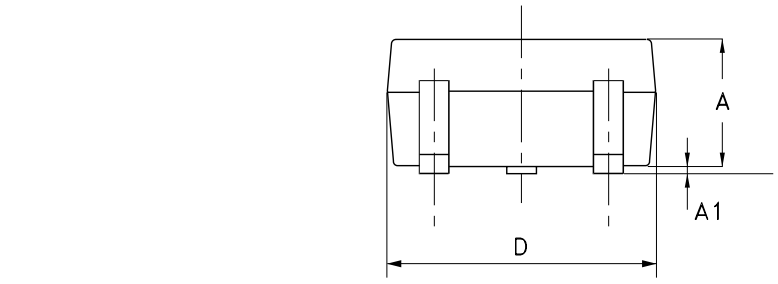
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

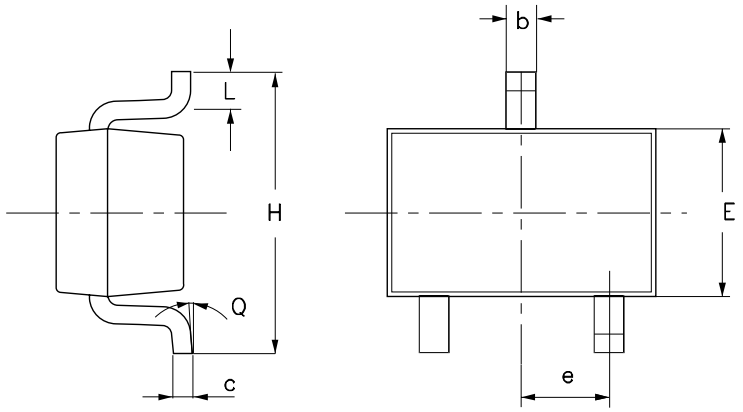
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cut-off Current (V_{BE} = -3 V)	V_{CE} = -30 V			-50	nA
I_{BEX}	Base Cut-off Current (V_{BE} = -3 V)	V_{CE} = -30 V			-50	nA
I_{CBO}	Collector Cut-off Current (I_E = 0)	V_{CB} = -50 V			-10	nA
$V_{(BR)CEO}$*	Collector-Emitter Breakdown Voltage (I_B = 0)	I_C = -10 mA	-60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_E = 0)	I_C = -10 µA	-60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_C = 0)	I_E = -10 µA	-5			V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = -150 mA I_B = -15 mA I_C = -500 mA I_B = -50 mA			-0.4 -1.6	V V
$V_{BE(sat)}$*	Collector-Base Saturation Voltage	I_C = -150 mA I_B = -15 mA I_C = -500 mA I_B = -50 mA			-1.3 -2.6	V V
h_{FE}*	DC Current Gain	I_C = -0.1 mA V_{CE} = -10 V I_C = -1 mA V_{CE} = -10 V I_C = -10 mA V_{CE} = -10 V I_C = -150 mA V_{CE} = -10 V I_C = -500 mA V_{CE} = -10 V	75 100 100 100 50		 300	
f_T	Transition Frequency	I_C = -50 mA V_{CE} = -20V f = 100MHz	200			MHz
C_{CBO}	Collector-Base Capacitance	I_E = 0 V_{CB} = -10 V f = 1 MHz			8	pF
C_{EBO}	Emitter-Base Capacitance	I_C = 0 V_{EB} = -2 V f = 1 MHz			30	pF
t_d	Delay Time	I_C = -150 mA I_B = -15 mA V_{CC} = -30V			10	ns
t_r	Rise Time				40	ns
t_{on}	Switching On Time				45	ns
t_s	Storage Time	I_C = -150 mA I_{B1} = $-I_{B2}$ = -15mA V_{CC} = -30V		190		ns
t_f	Fall Time				30	ns
t_{off}	Switching Off Time			220		ns

∗ Pulsed: Pulse duration = 300 µs, duty cycle ≤ 2 %

SOT-323 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	0.8		1.1	0.031		0.043
A1	0		0.1	0		0.003
b	0.25		0.4	0.009		0.015
c	0.1		0.26	0.004		0.010
D	1.8	2.0	2.2	0.070	0.078	0.086
E	1.15	1.25	1.35	0.045	0.049	0.053
e		0.65			0.025	
H	1.8	2.1	2.4	0.070	0.082	0.094
L	0.1	0.2	0.3	0.004	0.007	0.011
Q	0		10^o	0		10^o





FOOT PRINT SOT-323