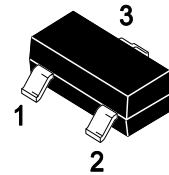


# High-Frequency Amplifier NPN Transistor

We declare that the material of product compliance with RoHS requirements.  
S- Prefix for Automotive and Other Applications Requiring Unique Site  
and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

**2SC4083QW**  
**S-2SC4083QW**



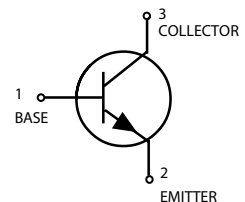
SOT-323

## Ordering Information

Device	Marking	Shipping
2SC4083QW S-2SC4083QW	4Q	3000/Tape&Reel

## Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	20	V
Collector-emitter voltage	$V_{CEO}$	11	V
Emitter-base voltage	$V_{EBO}$	3	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	0.15	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	- 55~+150	°C



## Driver Marking

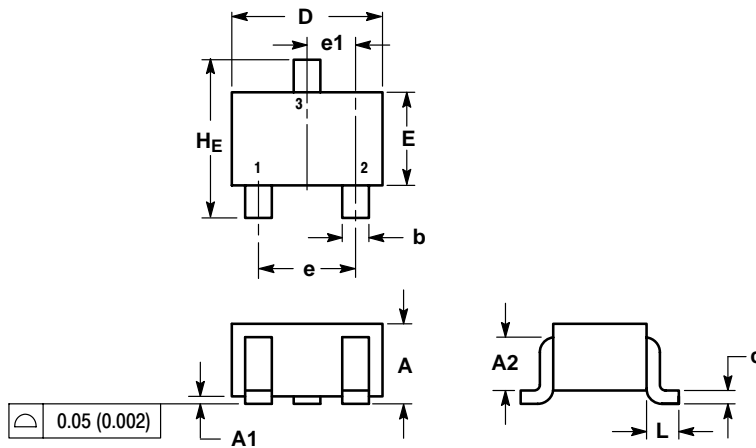
2SC4083QW=4Q

## Electrical characteristics (Ta=25 °C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	20			V	$I_C = 10\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	11			V	$I_C = 1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	3			V	$I_E = 10\mu A$
Collector cutoff current	$I_{CBO}$			0.5	$\mu A$	$V_{CB} = 10V$
Emitter cutoff current	$I_{EBO}$			0.5	$\mu A$	$V_{EB} = 2V$
Collector-emitter saturation voltage	$V_{CE(sat)}$			0.5	V	$I_C/I_B = 10mA/5mA$
DC current transfer ratio	$h_{FE}$	120		270		$V_{CE}/I_C = 10V/5mA$
Transition frequency	$f_T$	1.4	3.2		GHz	$V_{CB} = 10V, I_C = 10mA, f = 500MHz$
Output capacitance	$C_{ob}$		0.8	1.5	pF	$V_{CB} = 10V, I_E = 0A, f = 1MHz$
Collector-base time constant	$r_{bb'} \cdot C_c$		4	12	ps	$V_{CB} = 10V, I_C = 10mA, f = 31.8MHz$
Noise factor	NF		3.5		dB	$V_{CE} = 6V, I_C = 2mA, f = 500MHz, R_g = 50\Omega$



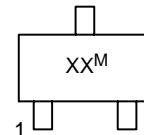
**SOT-323**



NOTES:  
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.  
 2. CONTROLLING DIMENSION: INCH.

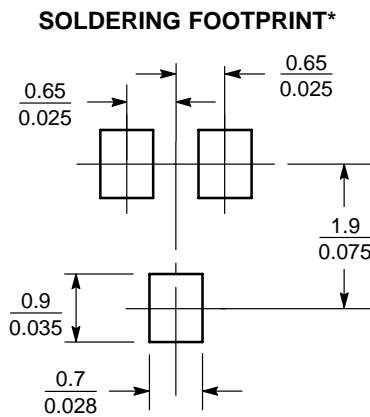
DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.7 REF			0.028 REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.425 REF			0.017 REF		
HE	2.00	2.10	2.40	0.079	0.083	0.095

**GENERIC MARKING DIAGRAM**



- XX = Specific Device Code
- M = Date Code
- = Pb-Free Package

\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.



SCALE 10:1 (mm/inches)

