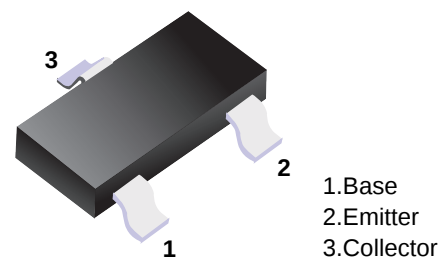


NPN Transistors

■ Features

Power dissipation

$P_{cm}: 0.625W$ ($T_{amb}=25^{\circ}C$)



■ Simplified outline(SOT-23)

■ Marking

Marking	28S
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■ MAXIMUM RATINGS ($T_A=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Units
VCBO	Collector-Base Voltage	40	V
VCEO	Collector-Emitter Voltage	20	V
VEBO	Emitter-Base Voltage	6	V
IC	Collector Current -Continuous	1	A
PC	Collector Power Dissipation	0.625	W
Tj	Junction Temperature	150	$^{\circ}C$
Tstg	Storage Temperature	-55-150	$^{\circ}C$

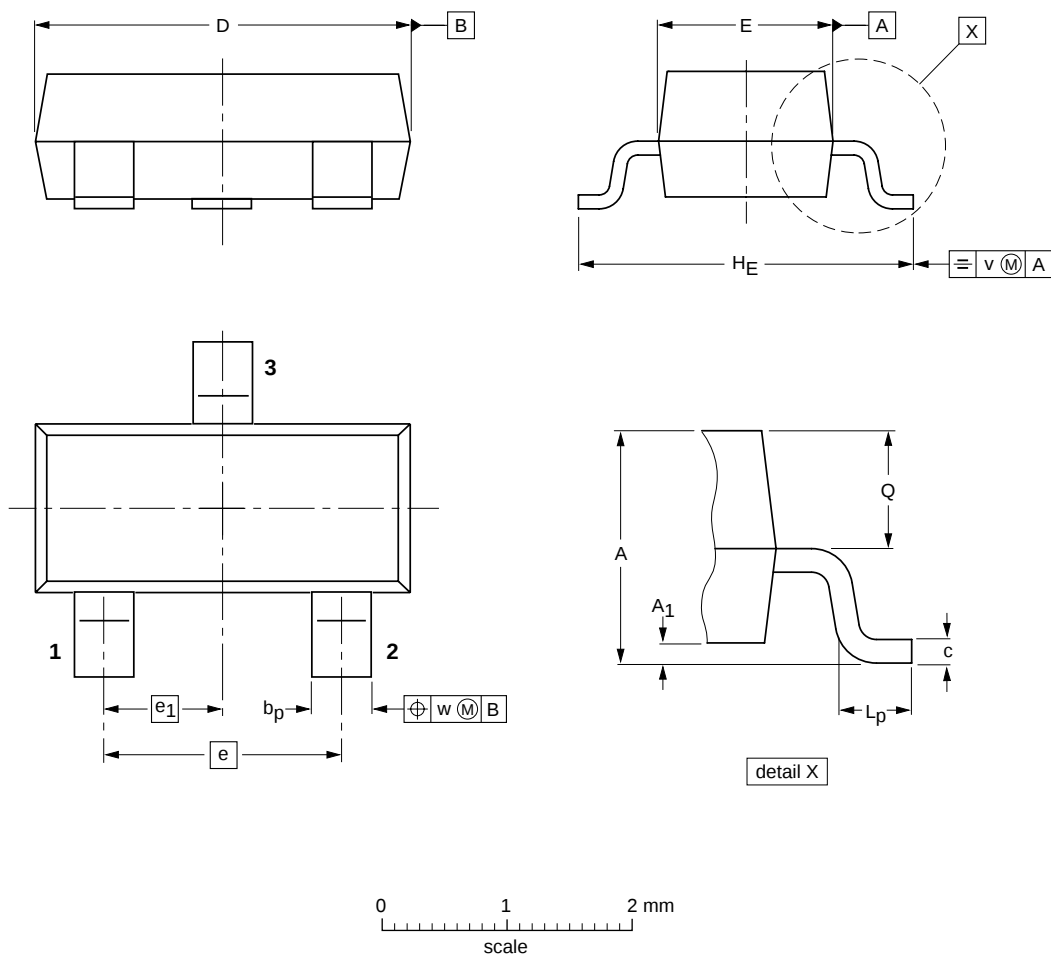
■ ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1mA, I_B = 0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu A, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 30V, I_E = 0$			1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 15V, I_B = 0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			1	μA
DC current gain	h_{FE}	$V_{CE} = 1V, I_C = 100mA$	300		1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 600mA, I_B = 20mA$			0.55	V
Transition frequency	f_T	$V_{CE} = 10V, I_C = 50mA$ $f = 30MHz$	100			MHz

■ CLASSIFICATION OF h_{FE}

Range	300-500	500-700	700-1000	
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■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1