

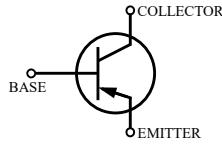
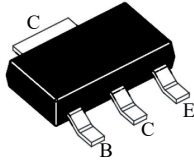


2SB0540LQSEH

PNP TRANSISTOR

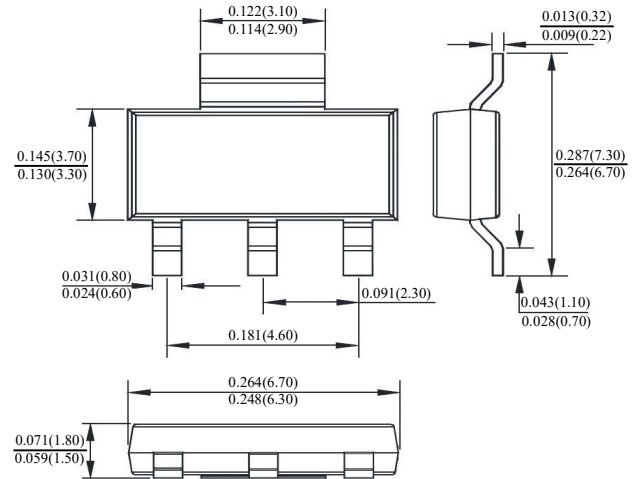
FEATURES

· Suffix "H" indicates Halogen-free parts, ex.2SB0540LQSEH



B	Base
C	Collector
E	Emitter

SOT-223



Dimensions in inch and (millimeter)

Maximum Ratings ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-40	V
Collector Emitter Voltage	V_{CEO}	-40	V
Emitter Base Voltage	V_{EBO}	-6	V
Collector Current	I_C	-5	A
Peak Collector Current	I_{CM}	-10	A
Power Dissipation (Note 1)	P_D	1.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	92	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Note :

1. Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate.



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Electrical Characteristics ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$	h_{FE}	250	-	-	-
	$V_{CE} = -2\text{V}, I_C = -1.0\text{A}$		200	-	-	
	$V_{CE} = -2\text{V}, I_C = -2.0\text{A}$		150	-	-	
	$V_{CE} = -2\text{V}, I_C = -5.0\text{A}$		50	-	-	
Collector Base Cutoff Current	$V_{CB} = -30\text{V}$	I_{CBO}	-	-	-100	nA
Emitter Base Cutoff Current	$V_{EB} = -5\text{V}$	I_{EBO}	-	-	-100	nA
Collector Emitter Saturation Voltage	$I_C = -500\text{mA}, I_B = -5\text{mA}$	$V_{CE(sat)}$	-	-	-120	mV
	$I_C = -1000\text{mA}, I_B = -10\text{mA}$		-	-	-215	
	$I_C = -2000\text{mA}, I_B = -200\text{mA}$		-	-	-215	
	$I_C = -5000\text{mA}, I_B = -500\text{mA}$		-	-	-385	
Base Emitter Saturation Voltage	$I_C = -5000\text{mA}, I_B = -500\text{mA}$	$V_{BE(sat)}$	-	-	-1.3	V
Base Emitter Turn-On Voltage	$V_{CE} = -2\text{V}, I_C = -2\text{A}$	$V_{BE(on)}$	-	-	-1.25	V
Transition Frequency	$V_{CE} = -10\text{V}, I_C = -100\text{mA}, f = 100\text{MHz}$	f_T	60	-	-	MHz
Collector Capacitance	$V_{CB} = -10\text{V}, I_E = 0\text{V}, f = 1\text{MHz}$	C_{ob}	-	-	105	pF



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RATINGS AND CHARACTERISTIC CURVES

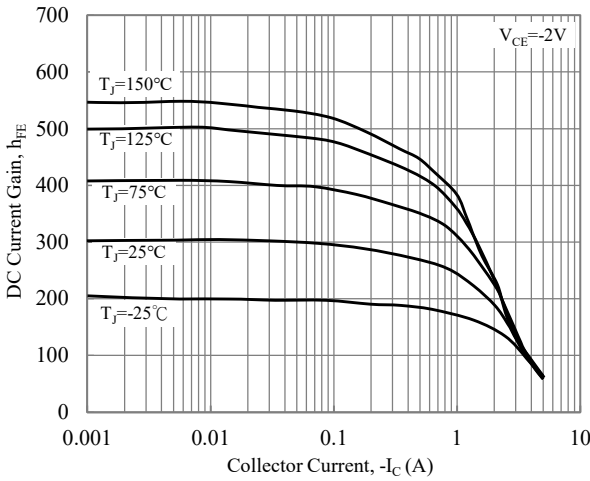


Fig. 1 Current Gain vs. Collector Current

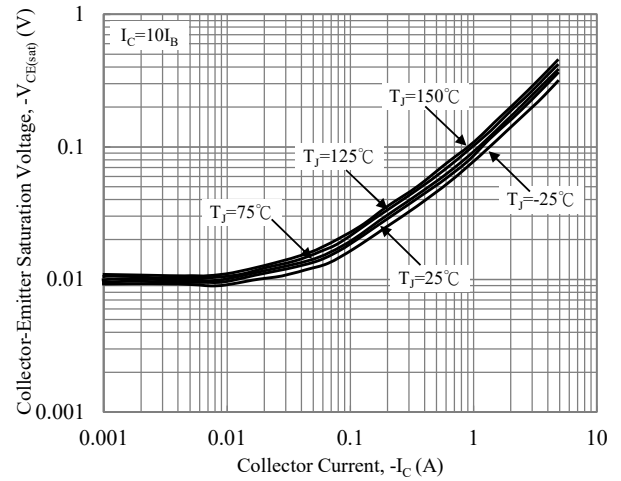


Fig. 2 Collector-Emitter Saturation Voltage vs. Collector Current

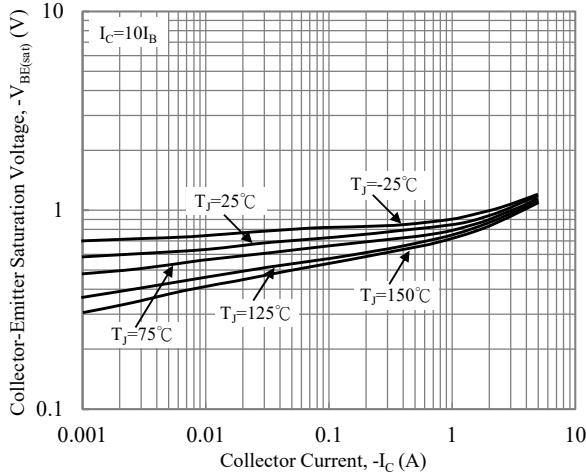


Fig. 3 Base-Emitter Saturation Voltage vs. Collector Current

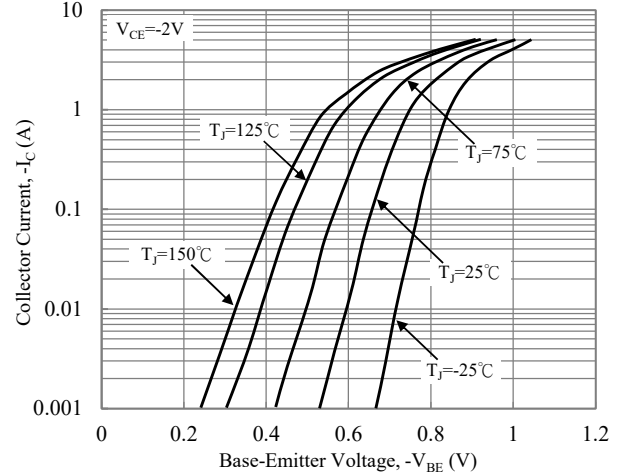


Fig. 4 Base-Emitter Voltage vs. Collector Current

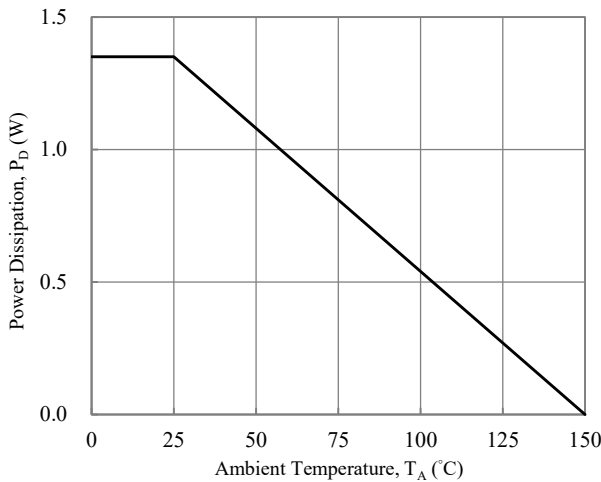


Fig. 5 Power Derating Curves

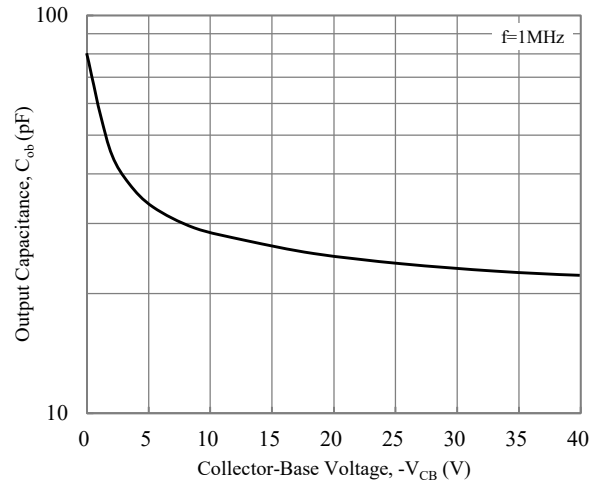


Fig. 6 Output Characteristics Curves



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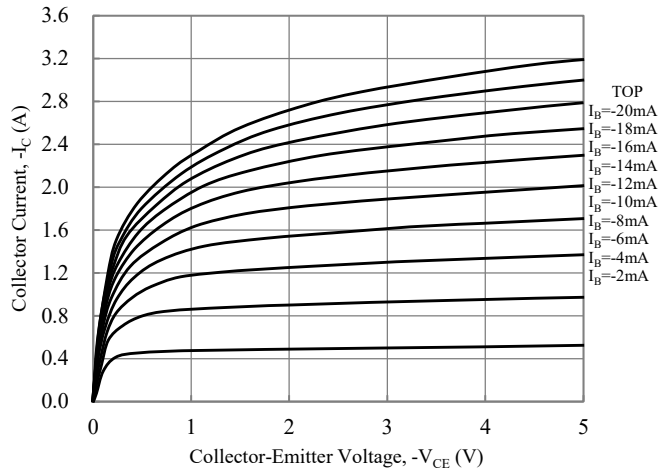


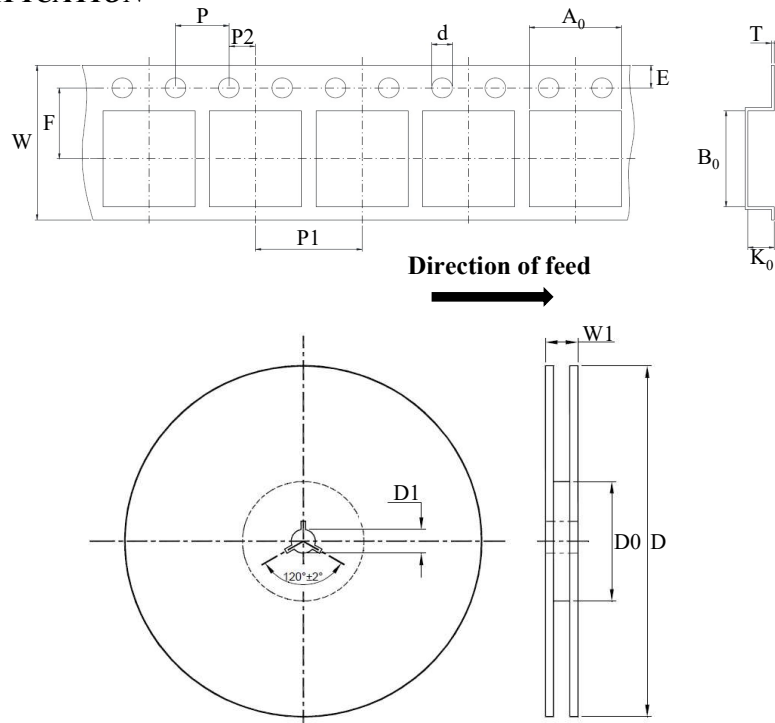
Fig. 7 Output Characteristics Curves



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TAPE & REEL SPECIFICATION



Item	Symbol	SOT-223
Carrier width	A ₀	7.05 ± 0.10
Carrier length	B ₀	7.45 ± 0.10
Carrier depth	K ₀	1.95 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	330.00 ± 2.00
Feed hole width	D ₀	100.00
Reel inner diameter	D ₁	16.40 ± 0.50
Sprocke hole position	E	1.75 ± 0.10
Punch hole position	F	5.50 ± 0.10
Sprocke hole pitch	P ₀	4.00 ± 0.10
Punch hole pitch	P ₁	8.00 ± 0.10
Embossment center	P ₂	2.00 ± 0.10
Overall tape thickness	T	0.25 ± 0.05
Tape width	W	12.00 ± 0.20
Reel width	W1	MAX. 20.00

ORDER INFORMATION

Part Number	Marking Code	Reel Size	Quantity
2SB0540LQSEH	2SB0540LQ	13"	3,000



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SUGGESTED SOLDER PAD LAYOUT

