

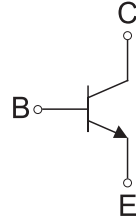
NPN Plastic-Encapsulate Transistors in SOT-23

Features

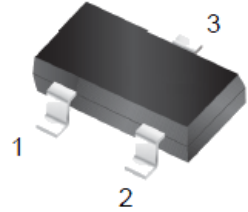
- High DC current gain: $h_{FE}=200(\text{TYP})$ $V_{CE}=6\text{V}, I_C=1\text{mA}$
- High voltage: $V_{CEO}=50\text{V}$

Mechanical Data

- **Case:** SOT-23 (plastic package).
Lead free; RoHS compliant
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals



Equivalent Circuit



1. BASE
2. EMITTER
3. COLLECTOR

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	150	mA
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	°C /W
T_j	Junction Temperature	-55~+150	°C
T_{stg}	Storage Temperature	-55~+150	°C

Electrical Characteristics

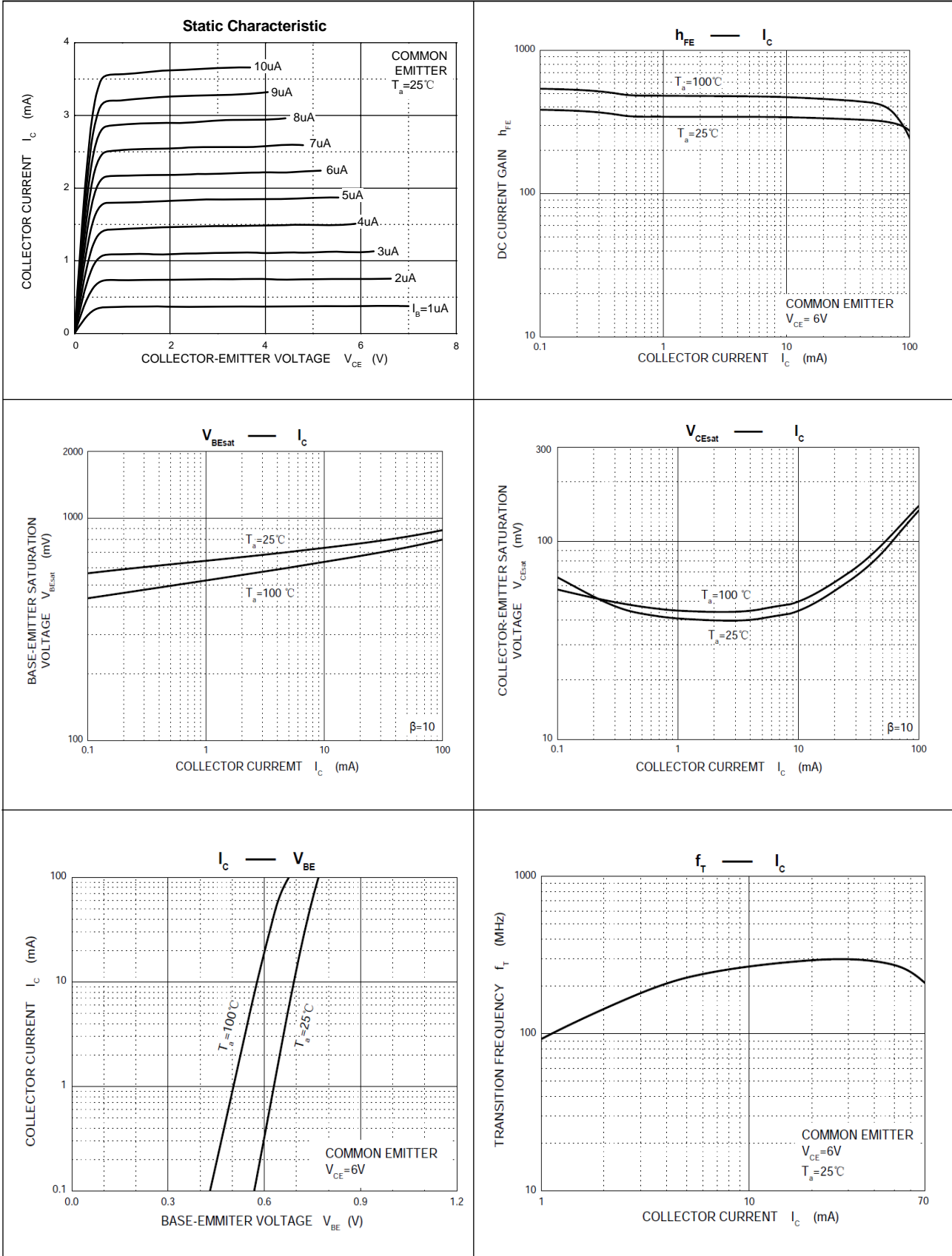
($T_A = 25\text{ °C}$ unless otherwise specified)

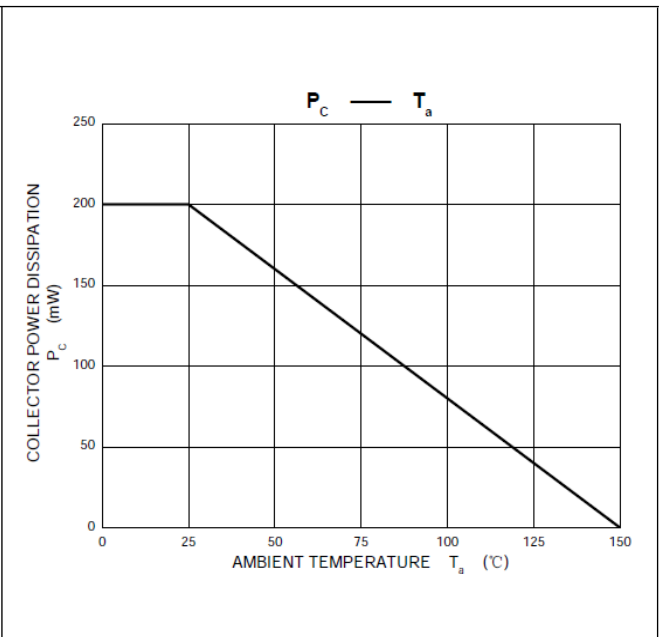
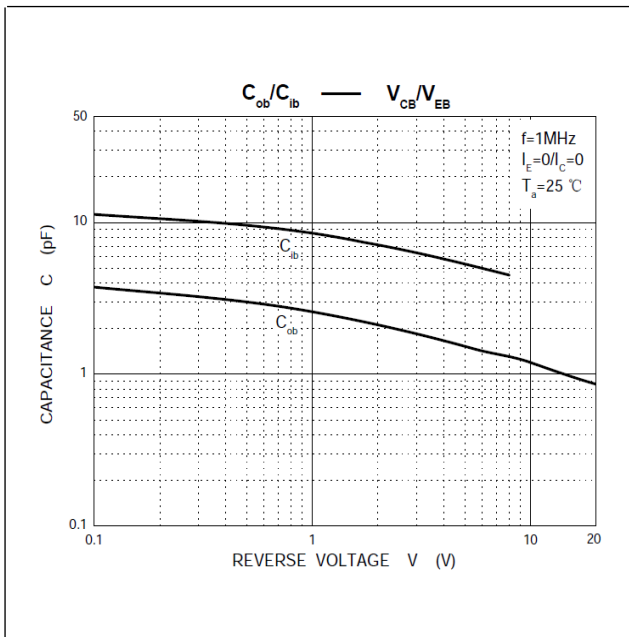
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0\text{V}$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			0.1	μA
DC current gain	h_{FE}	$I_C=1\text{mA}, V_{CE}=6\text{V}$	90	200	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.30	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=6\text{V}, I_C=10\text{mA}$		250		MHz

Classification of h_{FE}

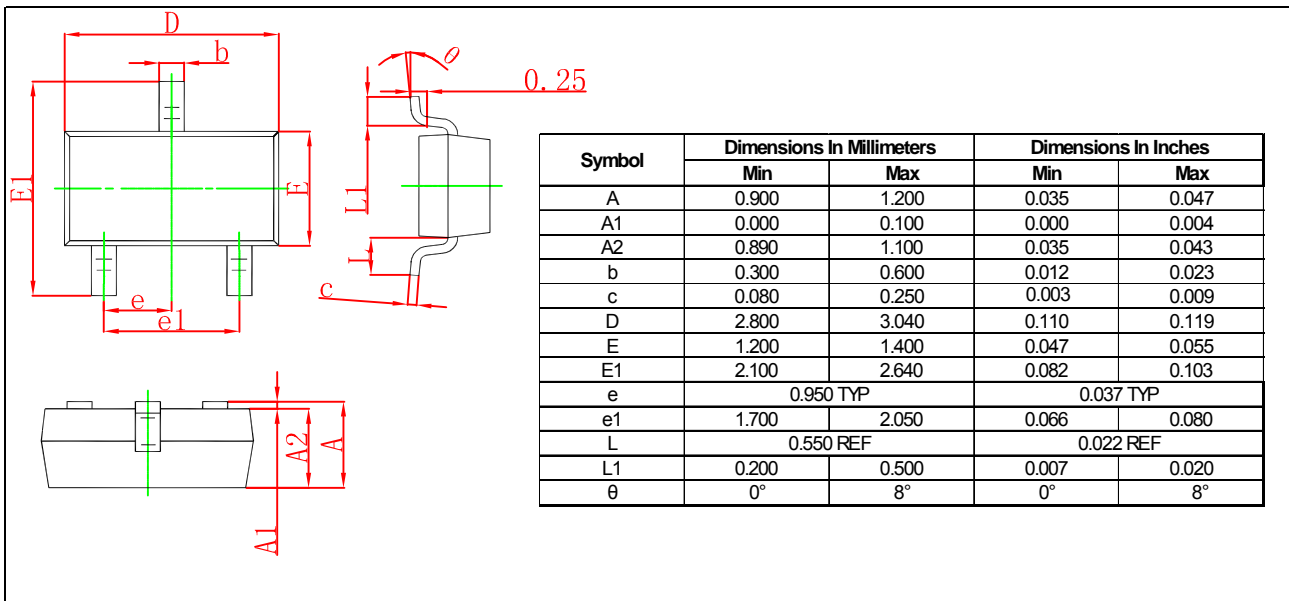
Rank	L4	L5	L6	L7
Range	90-180	135-270	200-400	300-600
Marking	L4	L5	L6	L7

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)





Package Dimensions



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
2SC1623Q	SOT-23	Tape and reel	3000pcs / reel	EIA STD RS-481

Revision history

Date	Revision	Changes
24-Jul-2025	3.0	Update

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