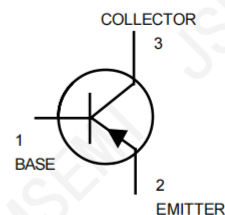




SOT-23



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	-45	V
Collector-Base Voltage	V_{CBO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector current-continuoun	I_C	-100	mA

THERMAL CHARATEERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board.(1) $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	R_{JA}	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (2) $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	R_{JA}	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

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

Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C=-1.0\text{mA}$)	$V_{(BR)CEO}$	-45	-	-	V
Emitter-Base Breakdown Voltage ($I_E=-100\mu\text{A}$)	$V_{(BR)EBO}$	-5	-	-	V
Collector-Base Breakdown Voltage ($I_C=-100\mu\text{A}$)	$V_{(BR)CBO}$	-50	-	-	V
Collector Cutoff Current ($V_{CB}=-40\text{V}$)	I_{CBO}	-	-	-100	nA
Emitter Cutoff Current ($V_{EB}=-3\text{V}$)	I_{EBO}	-	-	-100	nA

ON CHARACTERISTICS

DC Current Gain ($I_C=-1\text{mA}$, $V_{CE}=-5\text{V}$)	H_{FE}	150	-	600	
Collector-Emitter Saturation Voltage ($I_C=-100\text{mA}$, $I_B=-5\text{mA}$)	V_{CE}	-	-	-0.3	V

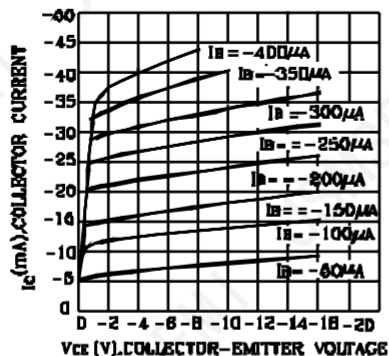
ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C=-1.0\text{mA}$)	$V_{(BR)CEO}$	-45	-	-	V
Emitter-Base Breakdown Voltage ($I_E=-100\mu\text{A}$)	$V_{(BR)EBO}$	-5	-	-	V
Collector-Base Breakdown Voltage ($I_C=-100\mu\text{A}$)	$V_{(BR)CBO}$	-50	-	-	V
Collector Cutoff Current ($V_{CB}=-40\text{V}$)	I_{CBO}	-	-	-100	nA
Emitter Cutoff Current ($V_{EB}=-3\text{V}$)	I_{EBO}	-	-	-100	nA

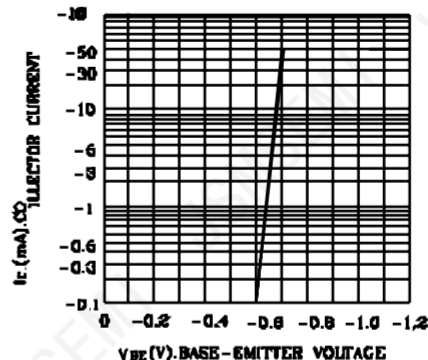
ON CHARACTERISTICS

DC Current Gain ($I_C=-1\text{mA}$, $V_{CE}=-5\text{V}$)	H_{FE}	150	-	600	
Collector-Emitter Saturation Voltage ($I_C=-100\text{mA}$, $I_B=-5\text{mA}$)	V_{CE}	-	-	-0.3	V

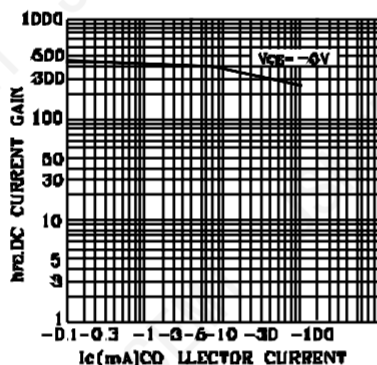
STATIC CHARACTERISTIC



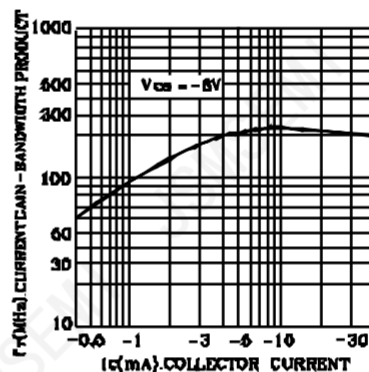
BASE-EMITTER VOLTAGE



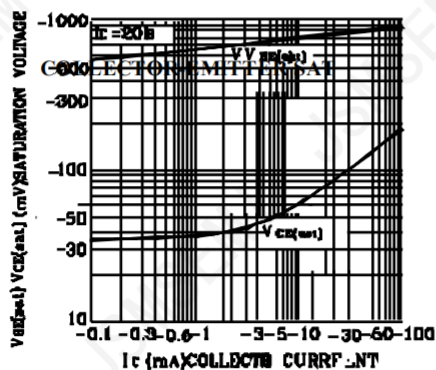
DC CURRENT GAIN



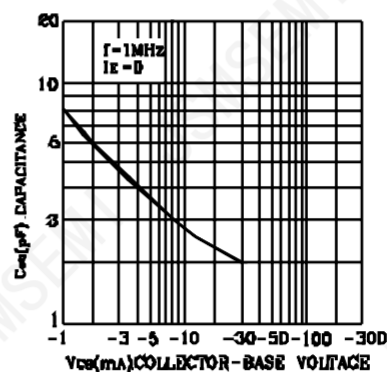
CURRENT GAIN-BANDWIDTH PRODUCT



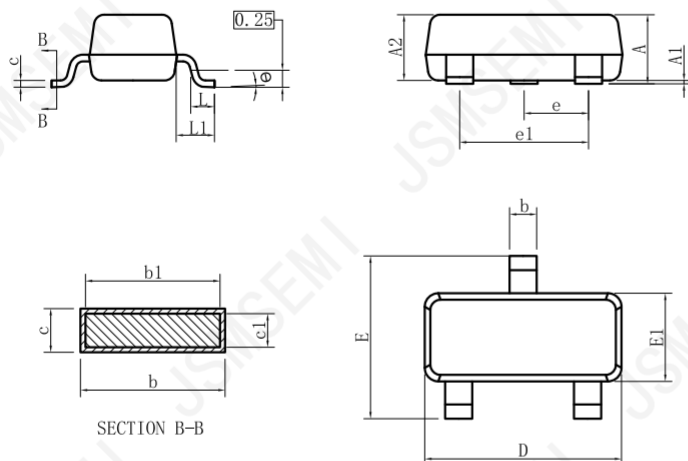
BASE-EMITTER SATURATION VOLTAGE
SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE

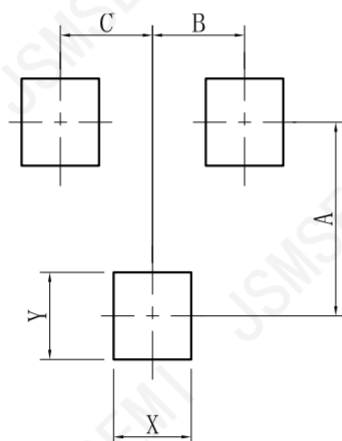


OUTLINE AND DIMENSIONS



SOT23			
DIM	MIN	NOR	MAX
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.50
b1	0.30	0.40	0.45
c	0.08	-	0.20
e1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	-	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	-	8°
All Dimensions in mm			

SOLDERING FOOTPRINT



SOT-23	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95

Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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