

Features

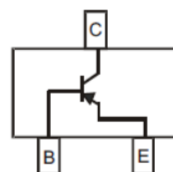
- Low collector-emitter saturation voltage
- High current capability
- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1



SOT-23

Applications

- Supply line switching circuits
- Battery management
- DC-DC convertor
- Strobe flash
- Motor and lamp driver



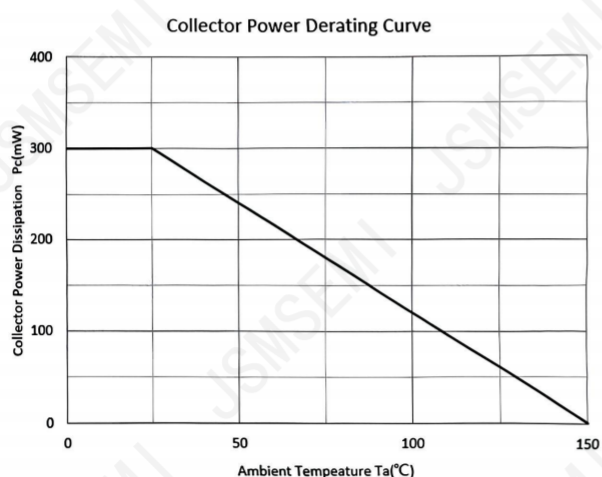
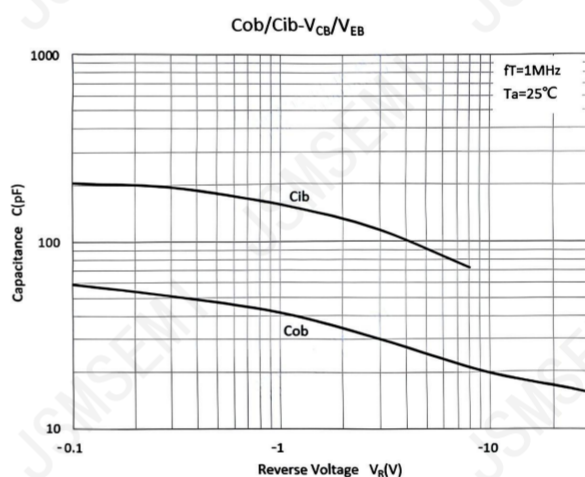
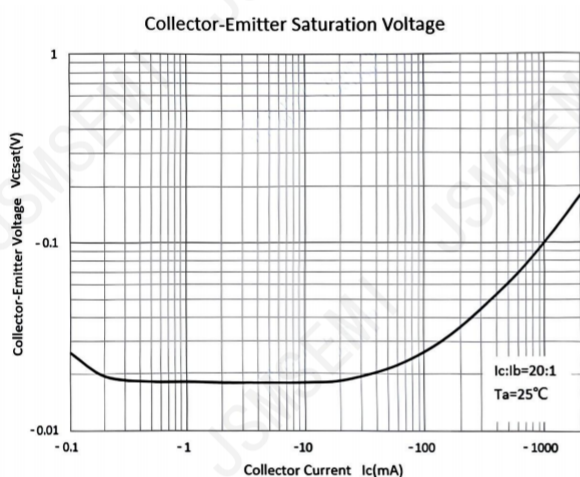
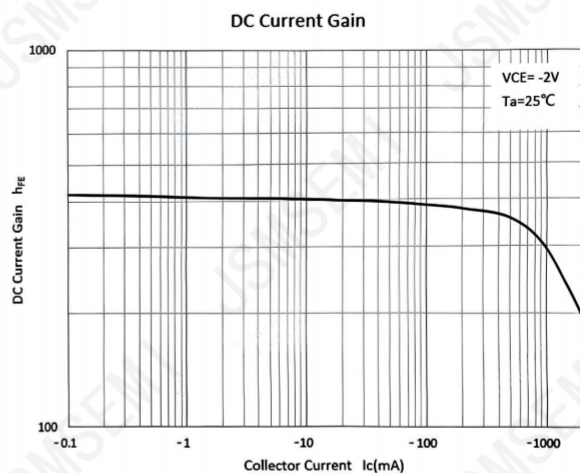
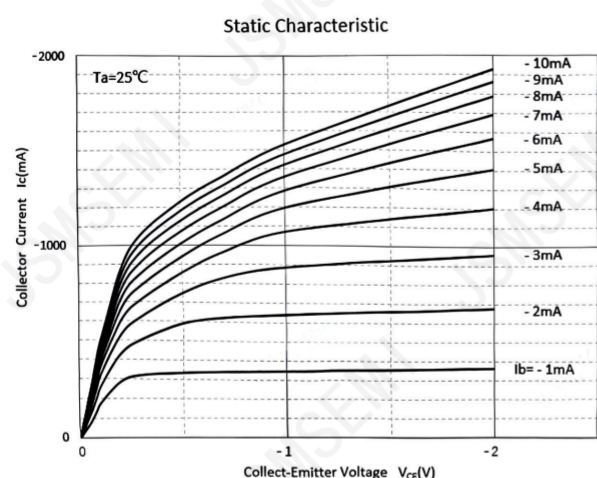
Maximum Ratings (Ta=25°C)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage*	V_{CEO}	V	$I_C = -1\text{mA}$, $I_B = 0$	-40
Collector-Base Voltage	V_{CBO}	V	$I_C = -100\mu\text{A}$, $I_E = 0$	-40
Emitter-Base Voltage	V_{EBO}	V	$I_E = -100\mu\text{A}$, $I_C = 0$	-5
Collector Current	I_C	A		-2
Collector Power Dissipation	P_C	mW		300
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	°C/W		417
Operation Junction Temperature	T_J	°C		150
Storage Temperature	T_{stg}	°C		-55 to +150

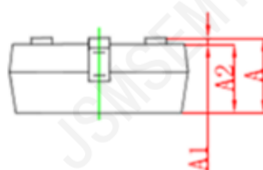
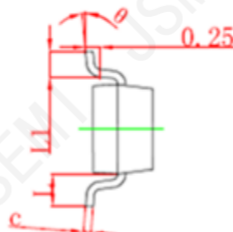
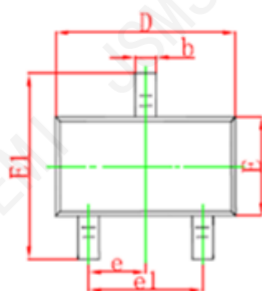
Electrical Characteristics ($T_a=25^{\circ}\text{C}$)

Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage	V_{CEO}	V	$I_C=-1\text{mA}$, $I_B=0$	-40	
Collector-Base Voltage	V_{CBO}	V	$I_C=-100\mu\text{A}$, $I_E=0$	-40	
Emitter-Base Voltage	V_{EBO}	V	$I_E=-100\mu\text{A}$, $I_C=0$	-5	
Collector-base Cut-off Current	I_{CBO}	nA	$V_{CB}=-30\text{V}$		-100
Base-emitter Cut-off Current	I_{EBO}	nA	$V_{EB}=-4\text{V}$		-100
DC Current Gain	h_{FE}		$I_C=-100\text{mA}$ $V_{CE}=-2\text{V}$	300	
			$I_C=-500\text{mA}$ $V_{CE}=-2\text{V}$	260	
			$I_C=-1\text{A}$ $V_{CE}=-2\text{V}$	210	
			$I_C=-2\text{A}$ $V_{CE}=-2\text{V}$	100	
Collector-Emitter Saturation Voltage	$V_{CE(sat)1}$	mV	$I_C=-100\text{mA}$ $I_B=-1\text{mA}$		-100
	$V_{CE(sat)2}$	mV	$I_C=-500\text{mA}$ $I_B=-50\text{mA}$		-110
	$V_{CE(sat)3}$	mV	$I_C=-750\text{mA}$ $I_B=-15\text{mA}$		-225
	$V_{CE(sat)4}$	mV	$I_C=-1\text{A}$ $I_B=-50\text{mA}$		-225
	$V_{CE(sat)5}$	mV	$I_C=-2\text{A}$ $I_B=-200\text{mA}$		-350
Equivalent On-Resistance	$R_{CE(sat)}$	m Ω	$I_C=-500\text{mA}$ $I_B=-50\text{mA}$		220
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=-2\text{A}$ $I_B=-200\text{mA}$		-1.1
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	V	$I_C=-100\text{mA}$ $V_{CE}=-2\text{V}$		-0.75
Transition frequency	f_T	MHz	$I_C=-100\text{mA}$, $V_{CE}=-10\text{V}$, $f=100\text{MHz}$	100	
Collector Capacitance	C_{ob}	pF	$V_{CB}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$		28

Characteristics(Typical)

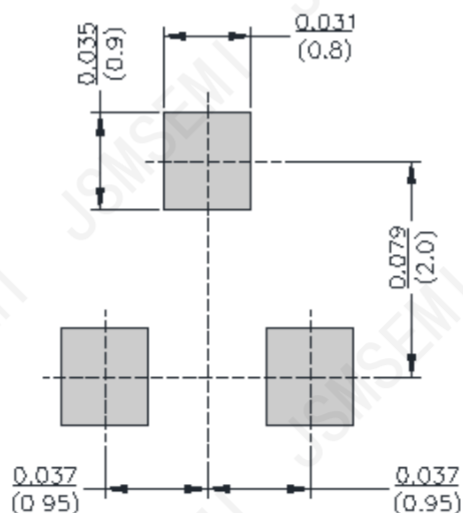


SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.900	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
ø	0°	8°	0°	8°

SOT-23 Soldering Footprint



Revision History

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

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