EVVOSEMI®
THINK CHANGE DO

ESD TVS MOS LDO Diode Sensor DC-DC

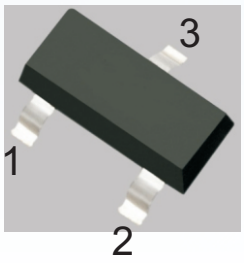
Product Specification

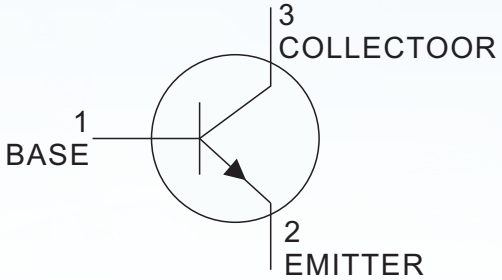
Domestic Part Number	EVS9018-S1
Overseas Part Number	S9018
Equivalent Part Number	S9018

"S1" means SOT-23

General Purpose Transistor
NPN Silicon
FEATURES
• AM/FM Amplifier, Local Oscillator of FM/VHF Tuner
• High Current Gain Bandwidth Product

SOT-23





DEVICE MARKING
S9018 = J8

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	15	Vdc
Collector–Base Voltage	V_{CBO}	30	Vdc
Emitter–Base Voltage	V_{EBO}	5.0	Vdc
Collector Current — Continuous	I_C	50	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR– 5 Board, (1) T_A = 25°C	P_D	200	mW
Junction and Storage Temperature	T_J, T_{stg}	– 55 to +150	°C

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)
OFF CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Collector–Emitter Breakdown Voltage(3) (I_C = 1.0 mAdc, I_B = 0)	$V_{(BR)CEO}$	15	–	Vdc
Collector–Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	$V_{(BR)CBO}$	30	–	Vdc
Emitter–Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)	$V_{(BR)EBO}$	5.0	–	Vdc
Collector cut-off current (V_{CB}= 12 Vdc, I_E = 0)	I_{CBO}	–	0.05	uAdc
Collector cut-off current (V_{CE} = 12 Vdc, I_B = 0)	I_{CEO}	–	0.1	uAdc
Emitter cut-off current (V_{EB} = 3Vdc, I_C = 0)	I_{EBO}	–	0.1	uAdc

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.
3. Pulse Test: Pulse Width <300 μs, Duty Cycle <2.0%.

ELECTRICAL CHARACTERISTICS (T A = 25°C unless otherwise noted) (Continued)
ON CHARACTERISTICS (3)

Characteristic	Symbol	Min	Max	Unit
DC Current Gain	h_{FE}			—
(Ic =1.0 mAdc, Vce =5 Vdc)		70	200	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$			Vdc
(Ic = 10 mAdc, Ib = 1 mAdc)(3)		—	0.5	
Base–Emitter Saturation Voltage(3)	$V_{BE(sat)}$			Vdc
(Ic = 10 mAdc, Ib = 1 mAdc)		—	1.4	

SMALL–SIGNAL CHARACTERISTICS

Current–Gain — Bandwidth Product (Ic = 5 mAdc, Vce= 5.0Vdc, f =400MHz)	f_T	800(typ)	MHz

CLASSIFICATION OF h_{FE}

Rank	L	H
Range	70-100	100-200

3. Pulse Test: Pulse Width <300 μs, Duty Cycle <2.0%.

TYPICAL CHARACTERICS

Fig.1 Power Derating Curve

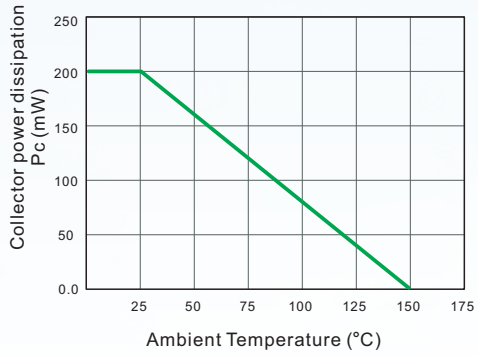


Fig.2 Static characteristics

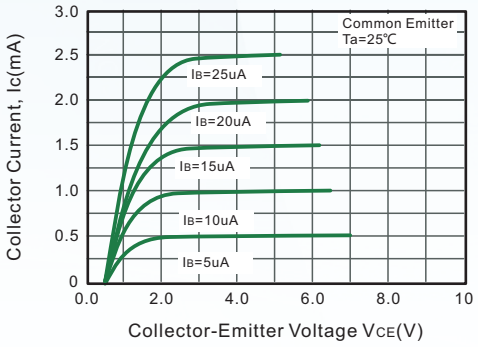


Fig.3 h_{FE}--Ic

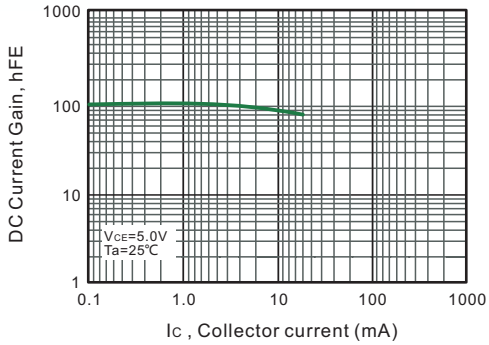


Fig.4 Ic--V_{BE}

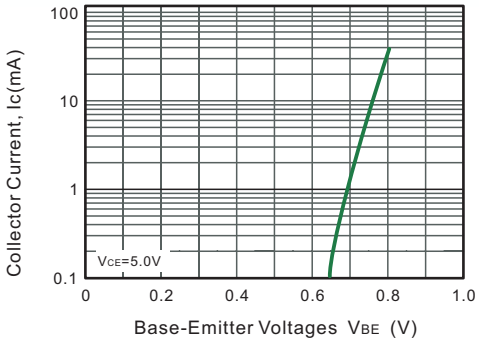


Fig.5 V_{BEsat}--Ic

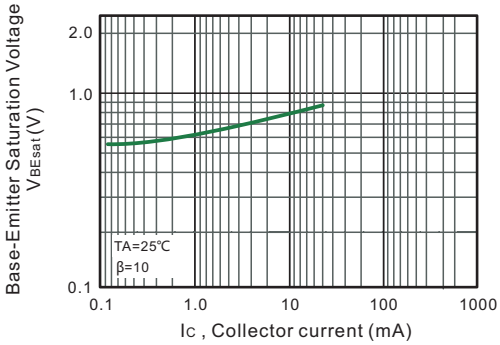


Fig.6 V_{CEsat}--Ic

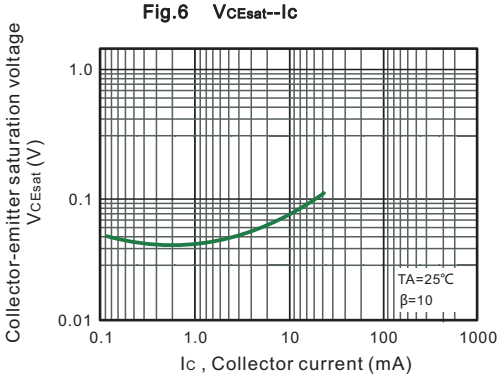


Fig.7 ft--Ic

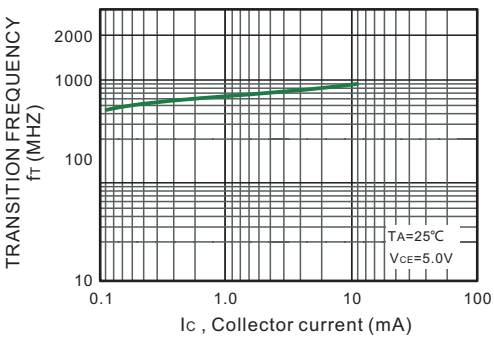
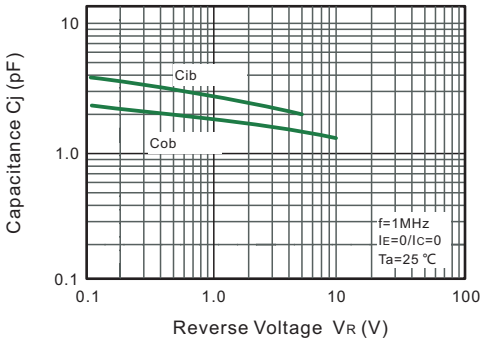
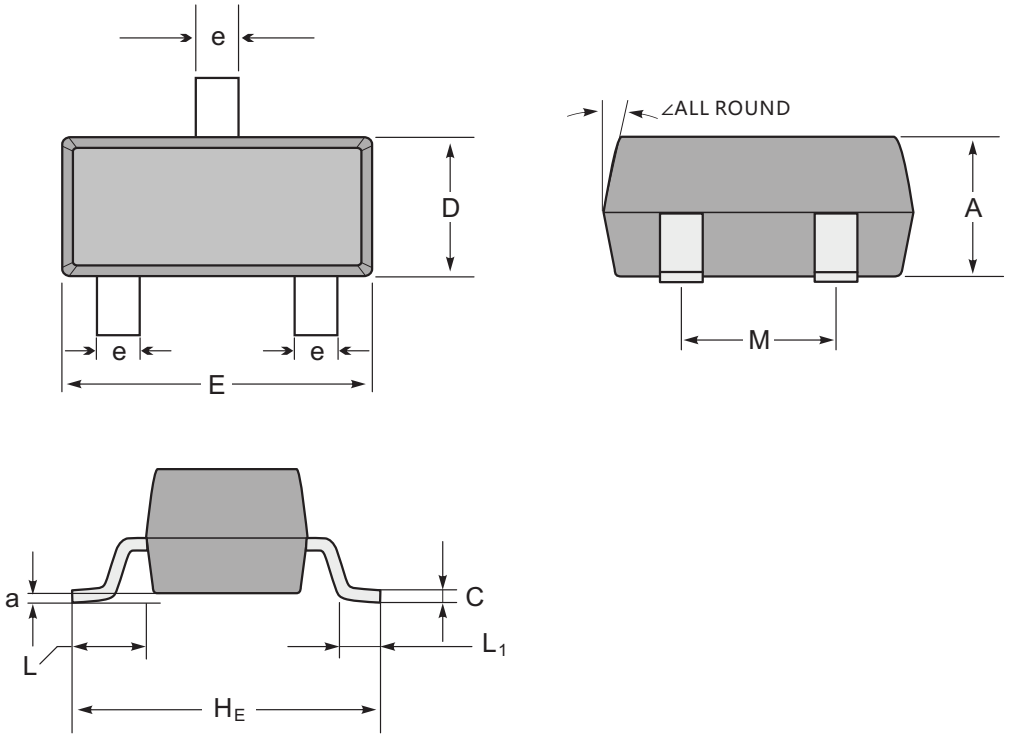


Fig.8 C_{ob}/C_{ib}-V_{CB}/V_{EB}



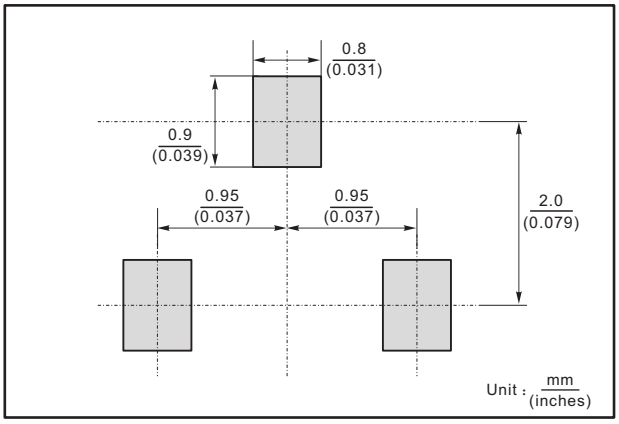
SOT-23 Package Outline Dimensions



SOT-23 mechanical data

UNIT		A	C	D	E	HE	e	M	L	L1	a	∠
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0	12°
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15	
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0	
	min	35	3	47	110	87	12	67			6	

The recommended mounting pad size

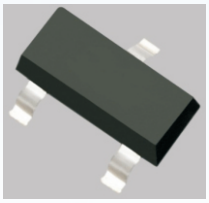


Marking

Type number	Marking code
S9018	J8

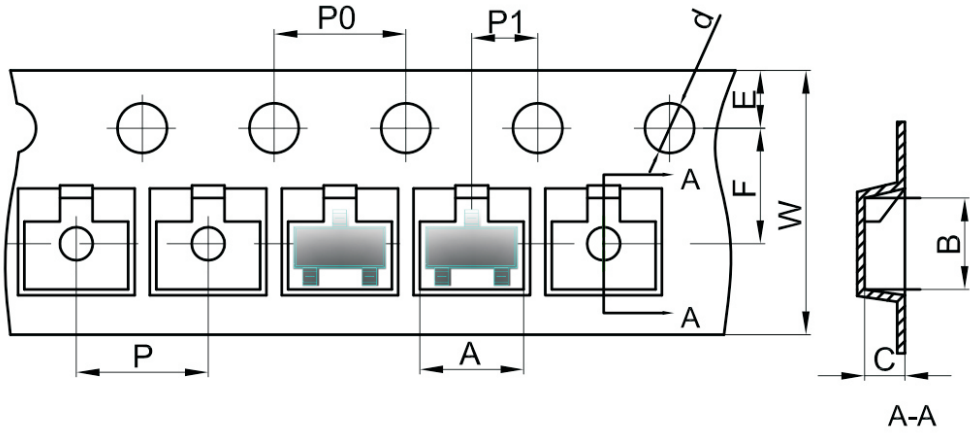
SOT-23 Packing

1.The method of packaging and dimension are shown as below figure. (Dimension in mm)



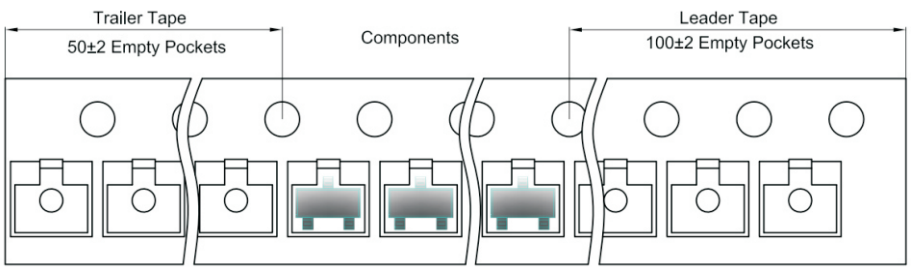
SOT-23

SOT-23 Embossed Carrier Tape



Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



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