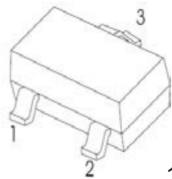


FEATURES

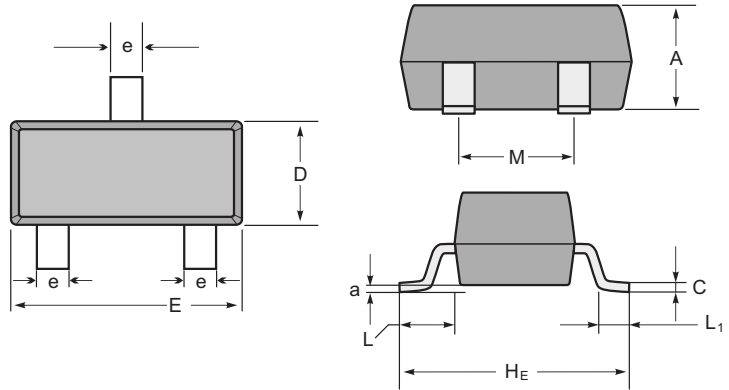
- Complementary to S9014



1.BASE
2.EMITTER
3.COLLECTOR

Marking

Type number	Marking code
S9014	J6



SOT-23 mechanical data

UNIT		A	C	D	E	H _E	e	M	L	L ₁	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55	0.36	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7	(ref)	(ref)	0.15
mil	max	43	6	55	118	102	20	77	22	14	0.0
	min	35	3	47	110	87	12	67	(ref)	(ref)	6

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V _{CEO}	45	Vdc
Collector–Base Voltage	V _{CBO}	50	Vdc
Emitter–Base Voltage	V _{EBO}	5.0	Vdc
Collector Current — Continuous	I _c	100	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

CLASSIFICATION OF h_{FE}

Rank	L	H
Range	200-450	450-1000

S9014

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

Characteristic	Symbol	Min	Max	Unit
Collector–Emitter Breakdown Voltage(3) (IC = 1.0 mA _{dc} , IB = 0)	V _{(BR)CEO}	45	—	V _{dc}
Collector–Base Breakdown Voltage (IC = 100 µA _{dc} , IE = 0)	V _{(BR)CBO}	50	—	V _{dc}
Emitter–Base Breakdown Voltage (IE = 100 µA _{dc} , IC = 0)	V _{(BR)EBO}	5.0	—	V _{dc}
Collector cut-off current (VCB = 50 V _{dc} , IE = 0)	ICBO	—	0.1	µA _{dc}
Collector cut-off current (VCE = 35V _{dc} , IB = 0)	ICEO	—	1	µA _{dc}
Emitter cut-off current (VEB = 3V _{dc} , IC = 0)	IEBO	—	0.1	µA _{dc}

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 (TA = 25°C unless otherwise noted) (Continued) ON CHARACTERISTICS⁽³⁾

Characteristic	Symbol	Min	Max	Unit
DC Current Gain	h _{FE}			—
(IC = 1.0 mA _{dc} , VCE = 5 V _{dc})		200	1000	
Collector–Emitter Saturation Voltage	VCE(sat)			V _{dc}
(IC = 100 mA _{dc} , IB = 5 mA _{dc})(3)		—	0.3	
Base–Emitter Saturation Voltage(3)	VBE(sat)			V _{dc}
(IC = 100 mA _{dc} , IB = 5mA _{dc})		—	1.0	

SMALL–SIGNAL CHARACTERISTICS

Current–Gain — Bandwidth Product (IC = 10mA _{dc} , VCE = 5.0V _{dc} , f = 30MHz)	f _T	150	—	MHz
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RATING AND CHARACTERISTIC CURVES (S9014)

Fig.1 Power Derating Curve

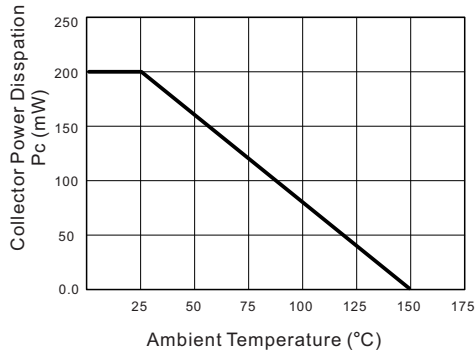


Fig.2 Static characteristics

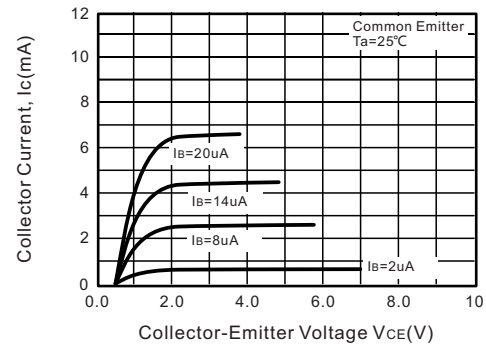


Fig.3 h_{FE} -- I_C

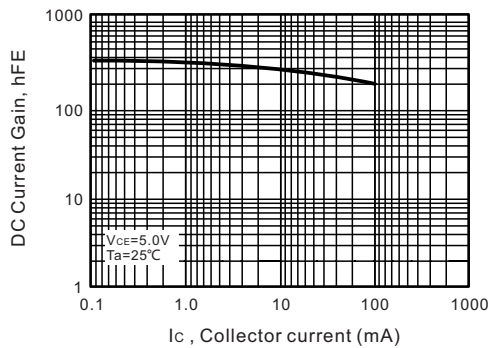


Fig.4 I_C -- V_{BE}

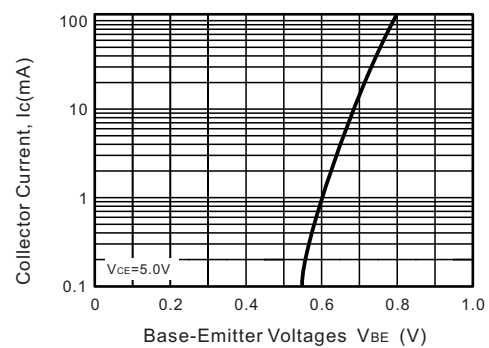


Fig.5 V_{BEsat} -- I_C

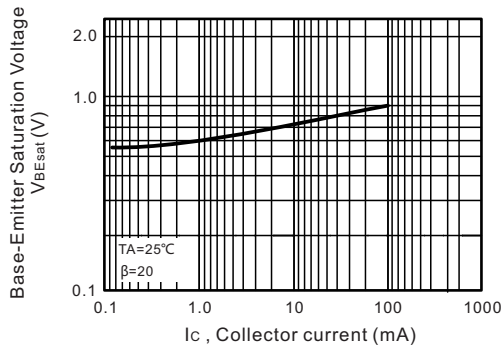


Fig.6 V_{CEsat} -- I_C

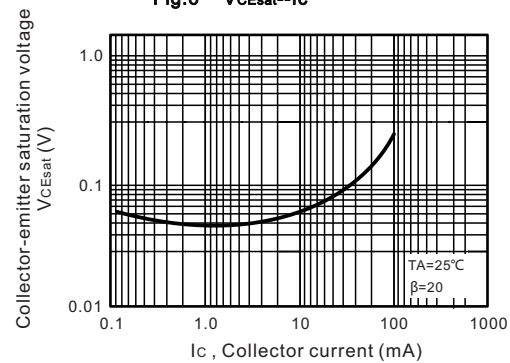


Fig.7 f_T -- I_C

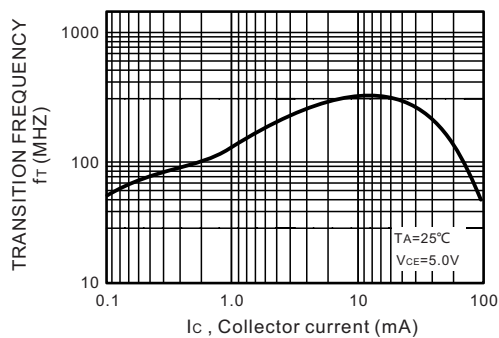


Fig.8 C_{ob}/C_{ib} -- V_{CB}/V_{EB}

