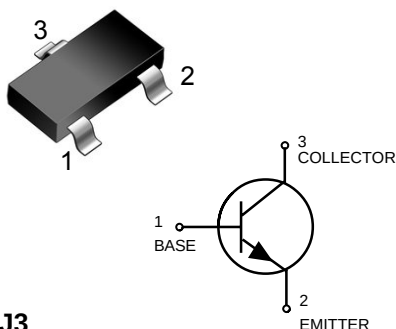


SOT-23



MARKING: J3

Features

As complementary type the PNP transistor S9014 is recommended
High stability and high reliability
Epitaxial planar die construction
Halogen free and RoHS compliant

Mechanical Data

SOT-23 Small Outline Plastic Package
EpoxyUL: 94V-0

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel,7" reel	3000	EIA-481-1

Maximum Ratings & Thermal Characteristics

(Ratings at 25℃ ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter -Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	416	℃/W

Electrical Characteristics

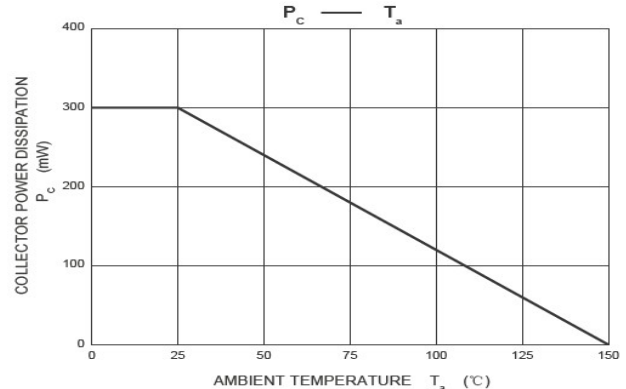
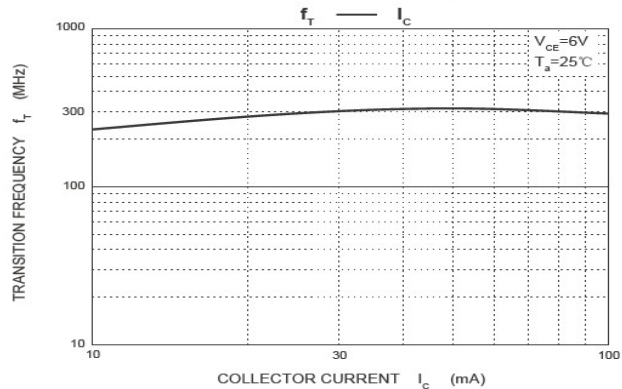
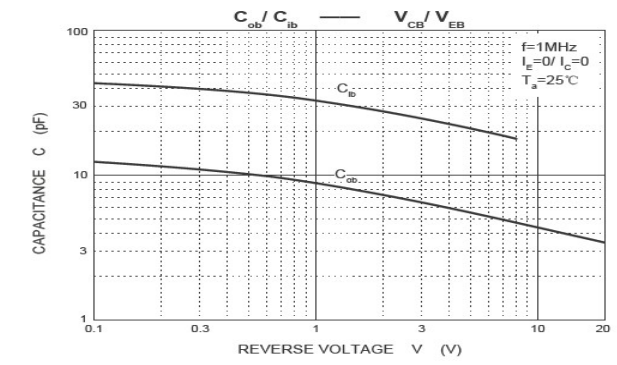
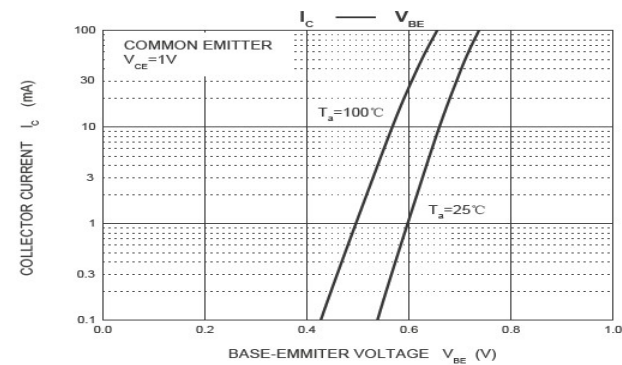
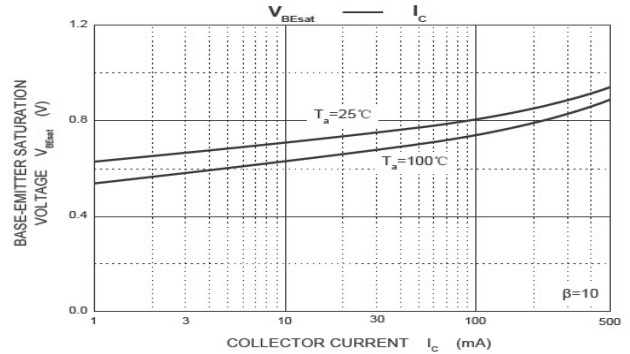
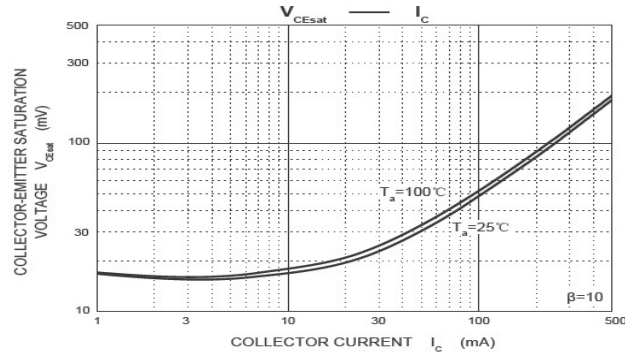
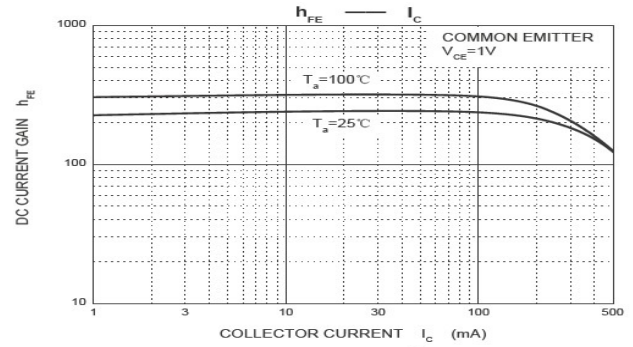
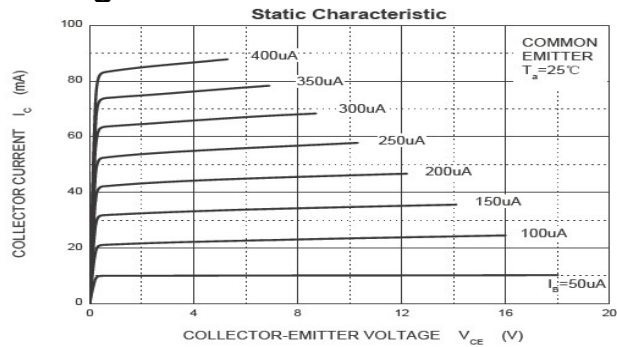
(Ratings at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5		V
Collector cut-off current	I_{CEO}	$V_{CE}=20V, I_B=0$		100	nA
Collector cut-off current	I_{CBO}	$V_{CB}=40V, I_E=0$		100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$		100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=1V, I_C=50mA$	120	400	
	$h_{FE(2)}$	$V_{CE}=1V, I_C=500mA$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$		0.60	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$		1.20	V
Base -emitter voltage	V_{BE}	$V_{CB}=1V, I_C=10mA$		0.70	V
Transition frequency	f_T	$V_{CE}=6V, I_C=20mA, f=30MHz$	150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=6V, I_E=0, f=1MHz$		8	pF

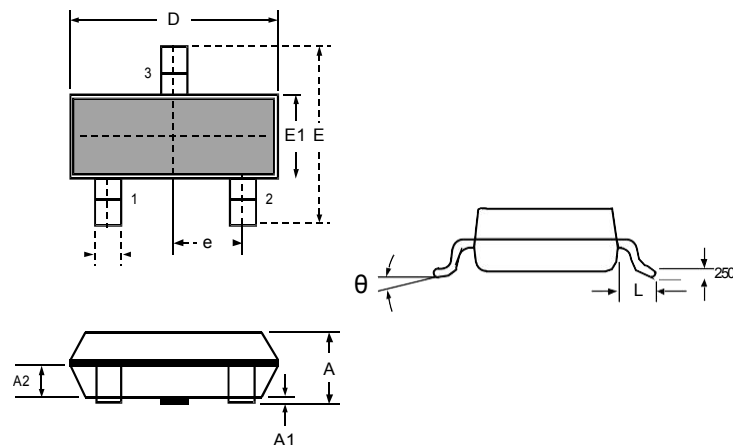
CLASSIFICATION OF $h_{FE(1)}$

RANK	L	H	J
RANGE	120-200	200-350	300-400

Ratings and Characteristic Curves



Package Outline Dimensions: SOT-23



DIMENSIONS

SYMBOL	MILLIMETER		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
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
θ	0	8°	0	8°