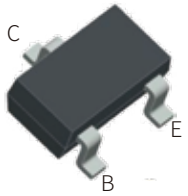
FEATURES

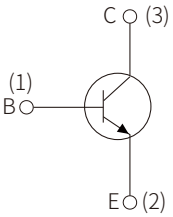
- SOT-523 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free



SOT-523

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



Schematic Symbol

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	
Emitter-Base Voltage	V_{EBO}	5	
Collector Current	I_C	500	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature Range	T_J	-55~+150	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

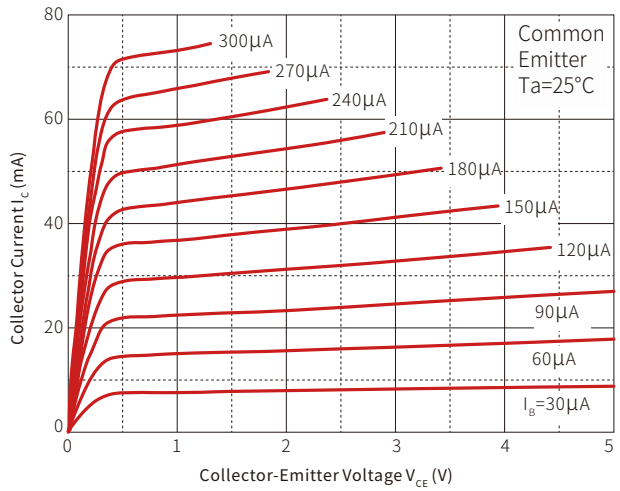
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	40			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	25			
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	5			
Collector cut-off current	I_{CBO}	V_{CB}= 40V, I_E=0			100	nA
Collector cut-off current	I_{CEO}	V_{CE}= 20V, I_B=0			100	
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			100	
DC Current Gain	h_{FE}	V_{CE}=1V, I_C=50mA	120		400	
		V_{CE}=1V, I_C=500mA	50			
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
Transition frequency	f_T	V_{CE}=6V, I_C=20mA,f=30MHz	150			MHz
Base-emitter voltage	V_{BE}	V_{CE}=1V, I_C=10mA			0.70	V

CLASSIFICATION OF $H_{FE(1)}$

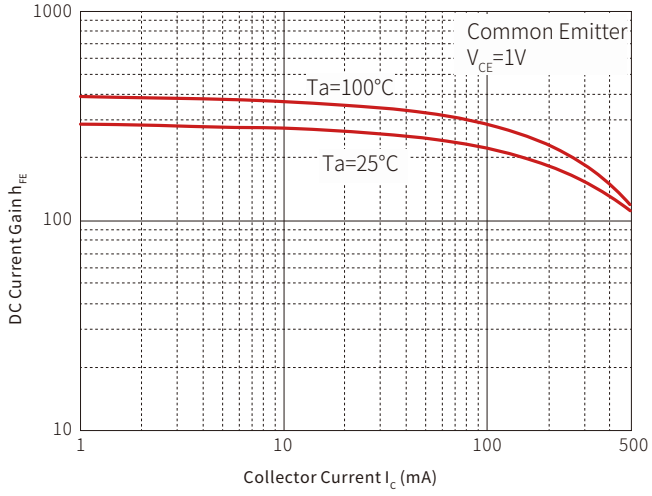
Rank	L	H	J
Range	120-200	200-350	300-400

TYPICAL CHARACTERISTICS

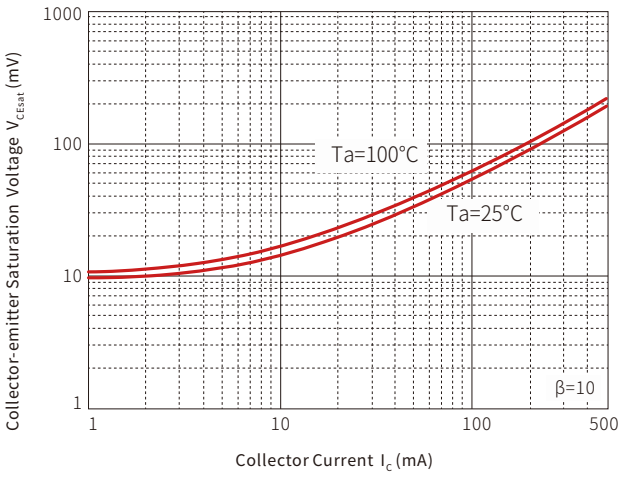
Static Characteristic



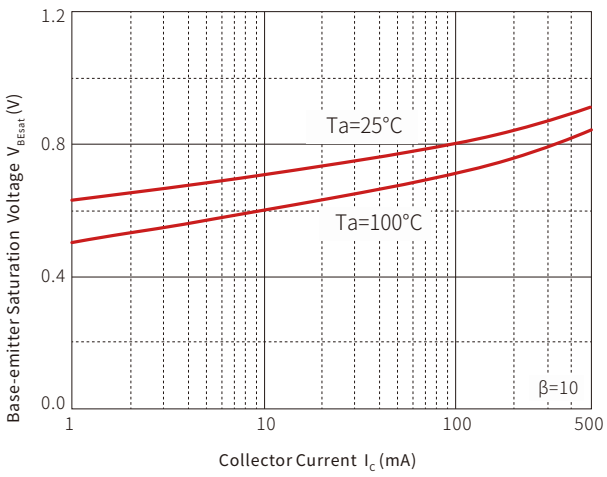
h_{FE} ——— I_C



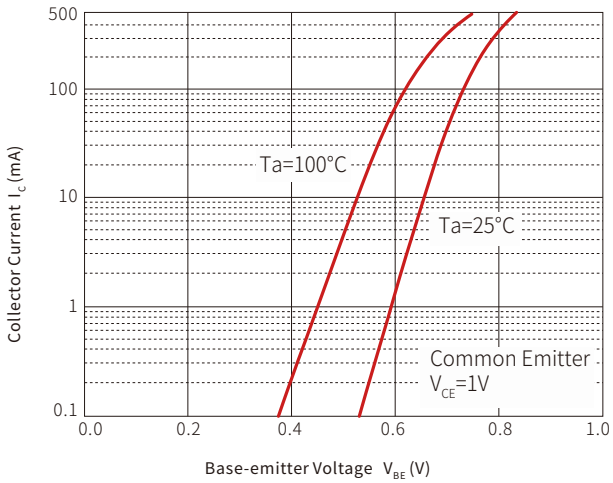
$V_{CE\ sat}$ ——— I_C



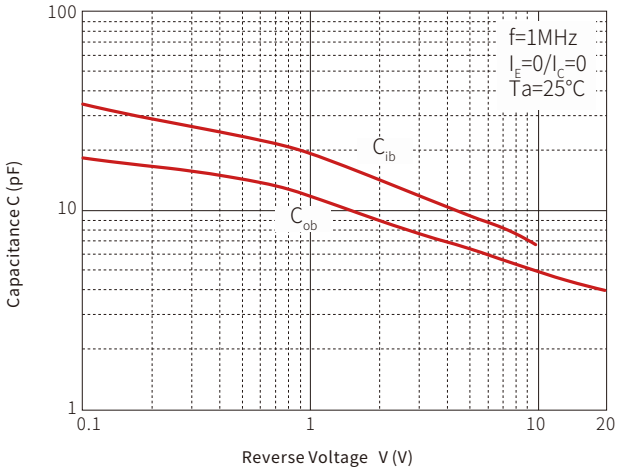
$V_{BE\ sat}$ ——— I_C



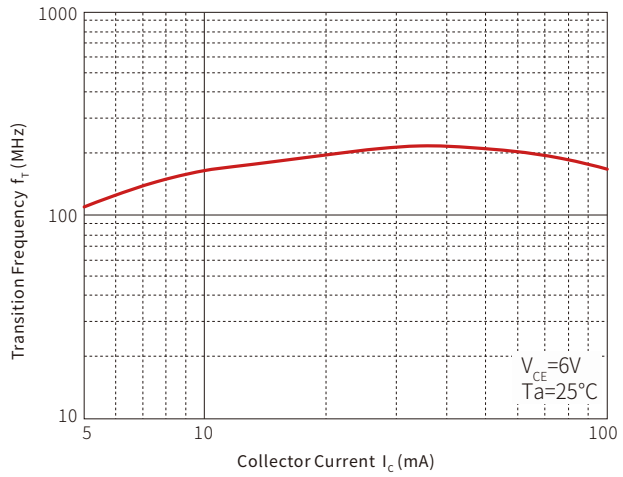
I_C ——— V_{BE}



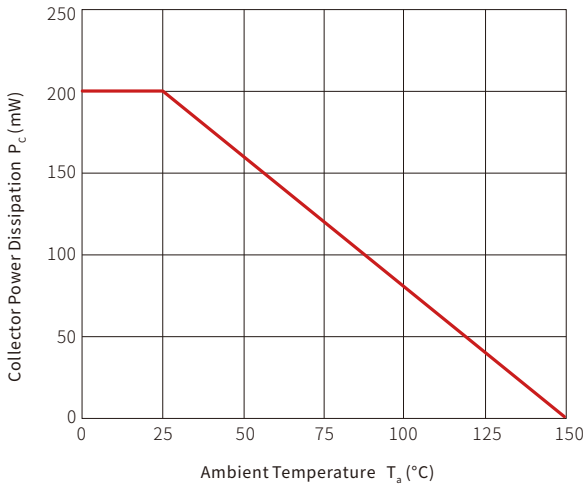
C_{ob}/C_{ib} ——— V_{CB}/V_{EB}



f_T ——— I_C

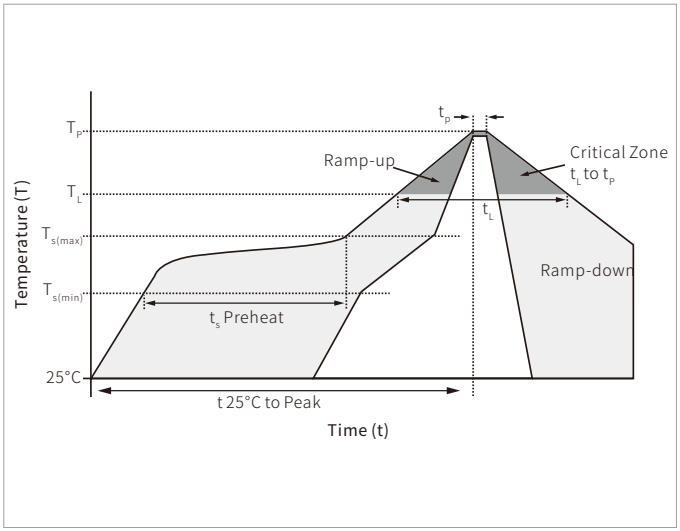


P_C ——— T_a

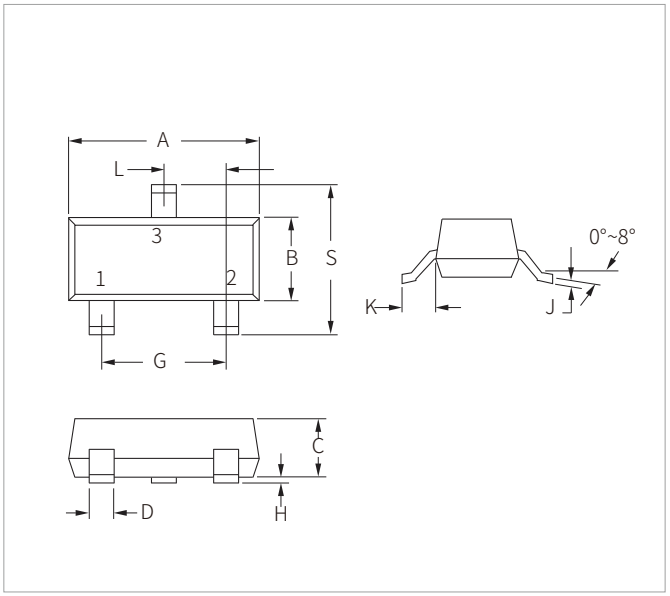


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C

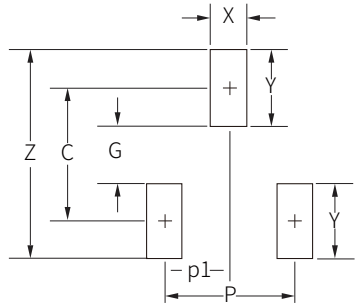


SOT-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.70	0.059	0.067
B	0.70	0.90	0.028	0.035
C	0.60	0.90	0.023	0.035
D	0.15	0.30	0.005	0.012
G	1.00BSC		0.039BSC	
H	0.00	0.10	0.000	0.004
J	0.10	0.20	0.004	0.008
K	(0.22)		(0.009)	
L	0.50BSC		0.020BSC	
S	1.45	1.75	0.057	0.069

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(1.40)	(0.055)
P	1.00	0.039
p1	0.50	0.020
G	0.60	0.024
X	0.40	0.016
Y	0.80	0.031
Z	2.20	0.087

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Reel	Reel Size
S8050T	SOT-523	J3Y	3000PCS	7”

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