

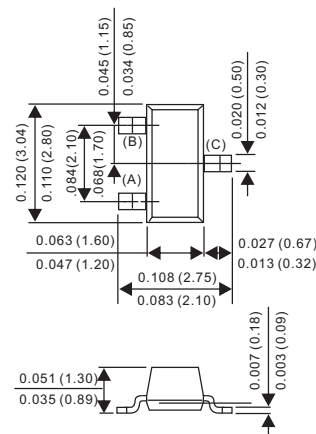


Features

- Collector current: $I_C=0.5A$

MAXIMUM RATINGS ($T_a=25^\circ C$ unless otherwise noted)

Parameter	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
Thermal Resistance From Junction To Ambient	R_{thJA}	417	$^\circ C/W$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	$^\circ C$



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$ unless otherwise specified)

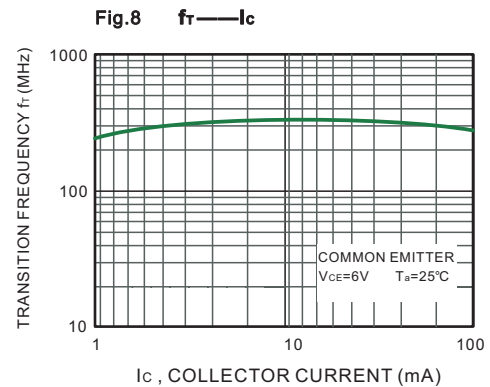
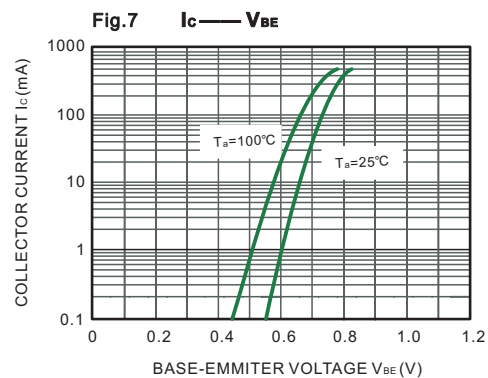
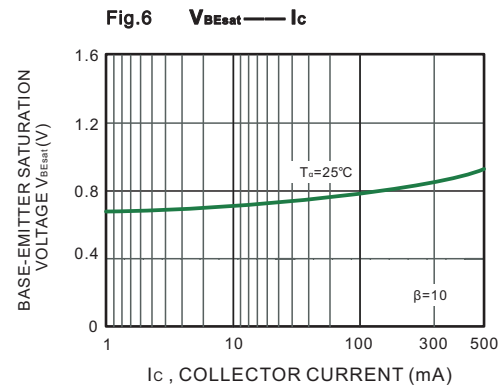
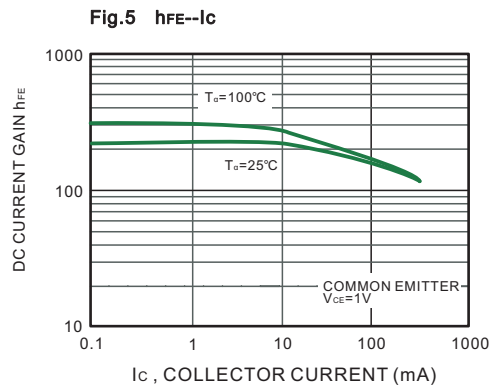
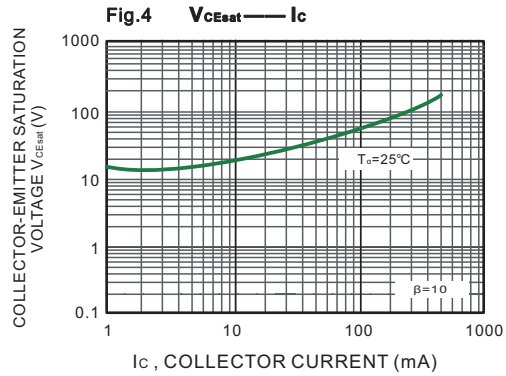
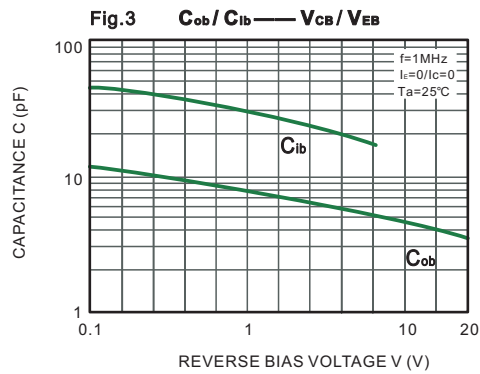
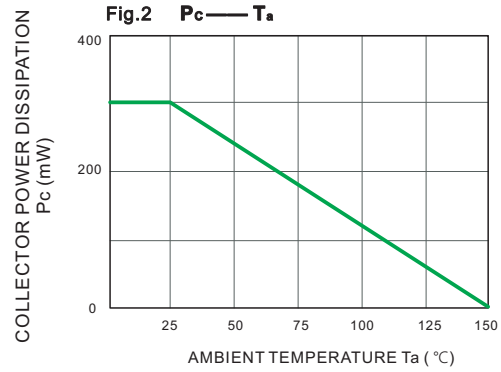
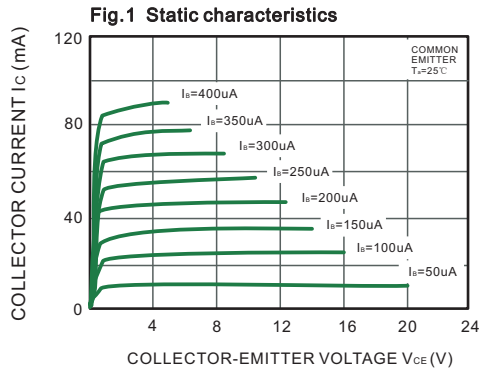
Dimensions in inches and (millimeters)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, I_B = 0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu A, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 40V, I_E = 0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 20V, I_B = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			0.1	μA
DC current gain	h_{FE1}	$V_{CE} = 1V, I_C = 50mA$	120		400	
	h_{FE2}	$V_{CE} = 1V, I_C = 500mA$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500mA, I_B = 50mA$			1.2	V
Transition frequency	f_T	$V_{CE} = 6V, I_C = 20mA, f=30MHz$	150			MHz

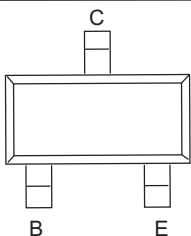
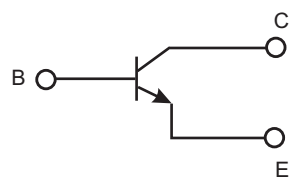
CLASSIFICATION OF h_{FE} (2)

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

Rating and characteristic curves



Pinning information

Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
S8050	J3Y

Suggested solder pad layout

SOT-23

