S8050

● Features

● Collector Current: I_C=0.5A

SOT-23   Unit: mm

1. Base
2. Emitter
3. collector

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	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	0.5	A
Collector Dissipation	P_C	0.3	W
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55 to 150	℃

Electrical Characteristics Ta = 25℃

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

Classification of $h_{fe(1)}$
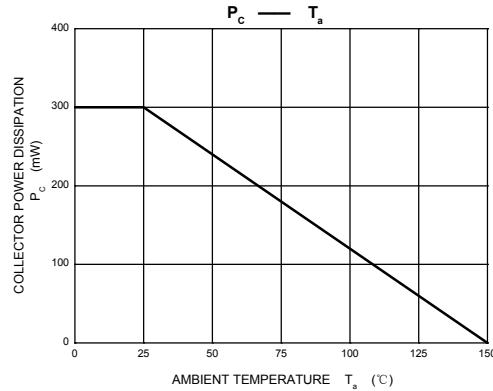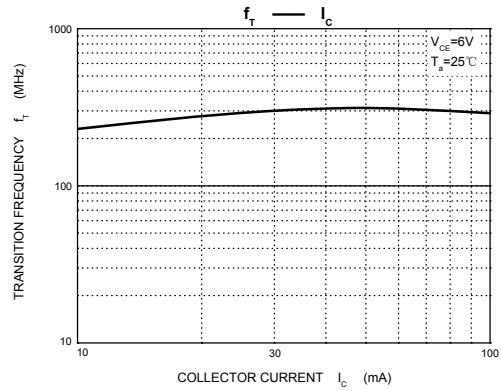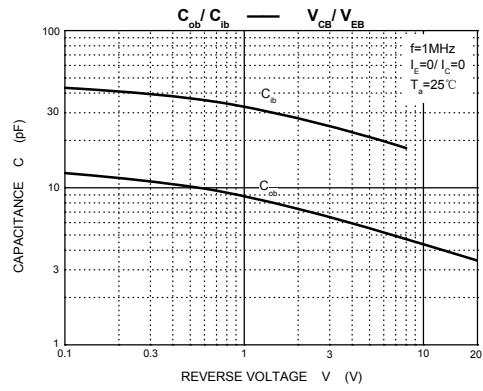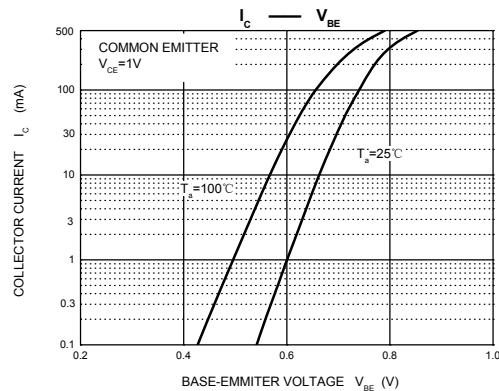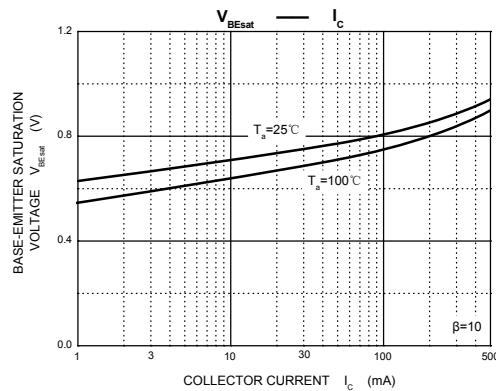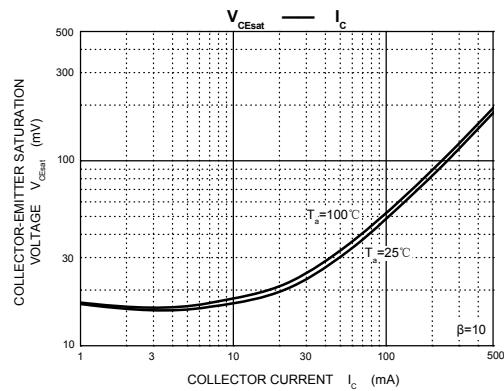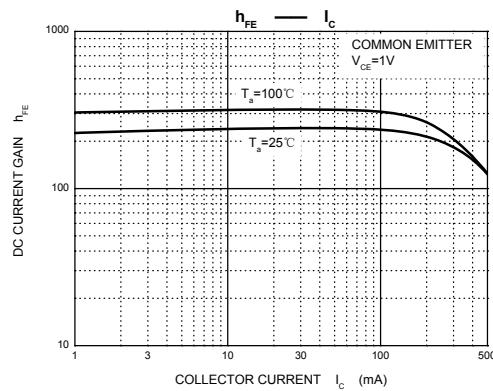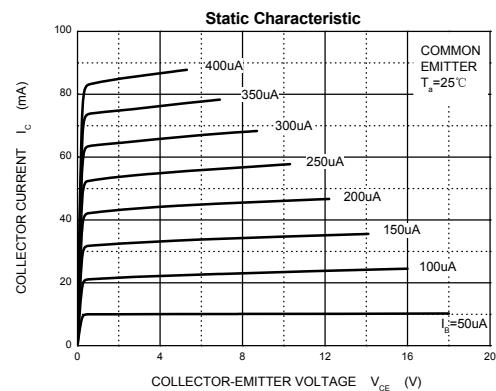
Marking	J3Y			
Rank		L	H	J
Range	200-350	120-200	144-202	300-400

Static Characteristic

COMMON EMITTER $T_a=25°C$

COLLECTOR CURRENT I_C (mA)

400uA
350uA
300uA
250uA
200uA
150uA
100uA
$I_B=50uA$

COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

h_{FE} — I_C

COMMON EMITTER $V_{CE}=1V$

DC CURRENT GAIN h_{FE}

$T_a=100°C$
$T_a=25°C$

COLLECTOR CURRENT I_C (mA)

V_{CEsat} — I_C

COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)

$T_a=100°C$
$T_a=25°C$

$\beta=10$

COLLECTOR CURRENT I_C (mA)

V_{BEsat} — I_C

BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (V)

$T_a=25°C$
$T_a=100°C$

$\beta=10$

COLLECTOR CURRENT I_C (mA)

I_C — V_{BE}

COMMON EMITTER $V_{CE}=1V$

COLLECTOR CURRENT I_C (mA)

$T_a=25°C$
$T_a=100°C$

BASE-EMMITER VOLTAGE V_{BE} (V)

C_{ob} / C_{ib} — V_{CB} / V_{EB}

$f=1MHz$
$I_E=0$/ $I_C=0$
$T_a=25°C$

CAPACITANCE C (pF)

C_{ib}
C_{ob}

REVERSE VOLTAGE V (V)

f_T — I_C

$V_{CE}=6V$
$T_a=25°C$

TRANSITION FREQUENCY f_T (MHz)

COLLECTOR CURRENT I_C (mA)

P_C — T_a

COLLECTOR POWER DISSIPATION P_C (mW)

AMBIENT TEMPERATURE T_a (°C)

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