SOT-23

1. BASE
2. EMITTER
3. COLLECTOR

Marking: 2X

Features

- Power Dissipation of 300mW
- High Stability and High Reliability

Maximum Ratings

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

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter -Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	600	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	417	℃/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=100uA, I_E=0	60		V
Collector-emitter breakdown voltage	**$V_{(BR)CEO}$**	I_C=1mA, I_B=0	40		V
Emitter-base breakdown voltage	**$V_{(BR)EBO}$**	I_E=100uA, I_C=0	6		V
Collector cut-off current	**I_{CBO}**	V_{CB}=50V, I_E=0		100	nA
Collector cut-off current	**I_{CEX}**	V_{CE}=35V, $V_{EB(off)}$=0.4V		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=0.1mA	20		
	$h_{FE(2)}$	V_{CE}=1V, I_C=1mA	40		
	$h_{FE(3)}$	V_{CE}=1V, I_C=10mA	80		
	$h_{FE(4)}$	V_{CE}=1V, I_C=150mA	100	300	
	$h_{FE(5)}$	V_{CE}=1V, I_C=500mA	40		
Collector-emitter saturation voltage	**$V_{CE(sat)}$**	I_C=150mA, I_B=15mA		0.40	V
		I_C=500mA, I_B=50mA		0.75	V
Base -emitter saturation voltage	**$V_{BE(sat)}$**	I_C=150mA, I_B=15mA		0.95	V
		I_C=500mA, I_B=50mA		1.20	V
Transition frequency	**f_T**	V_{CE}=10V, I_C=20mA,f=100MHz	250		MHz
Delay time	td	V_{CC}=30V, $V_{BE(off)}$=-2V, I_C=150mA, I_{B1}=15mA		15	nS
Rise time	tr			20	nS
Storage time	ts	V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA		225	nS
Fall time	tf			60	nS

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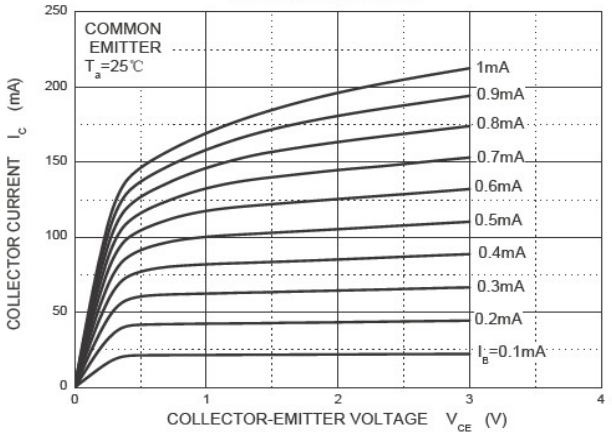
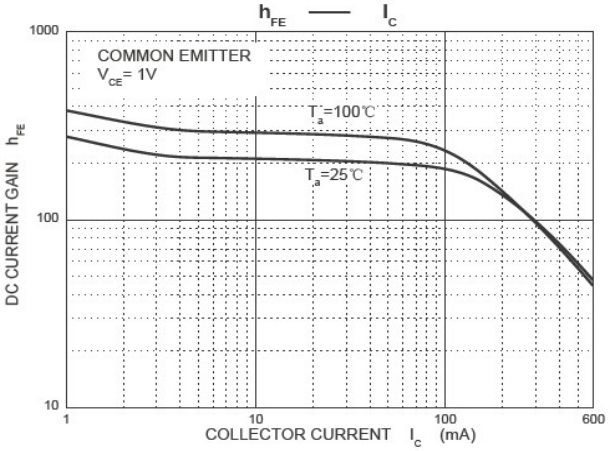
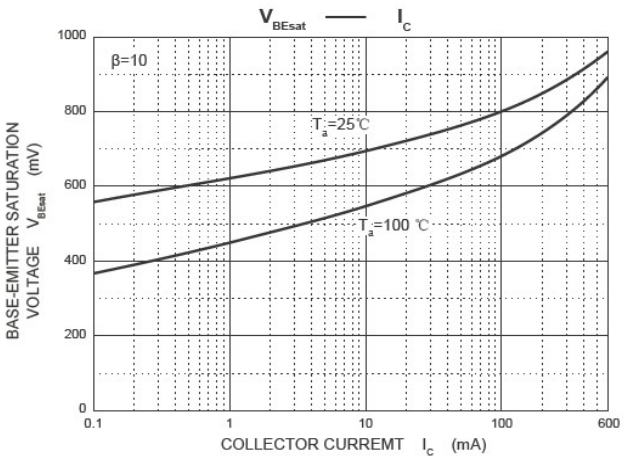
Static Characteristic



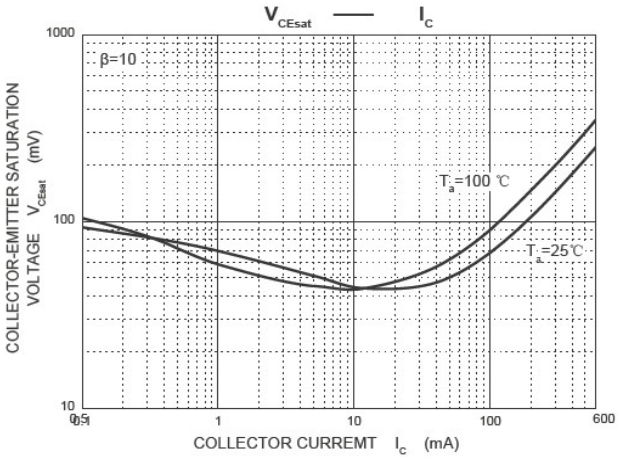
h_{FE} —— I_C



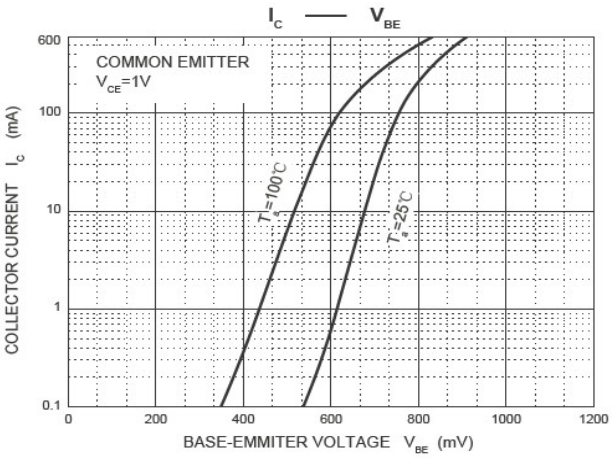
V_{BEsat} —— I_C



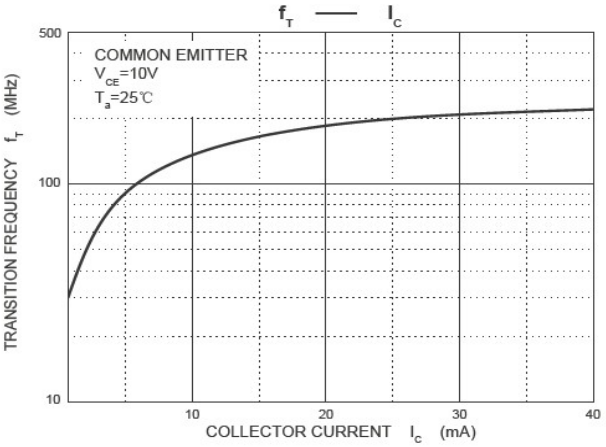
V_{CEsat} —— I_C



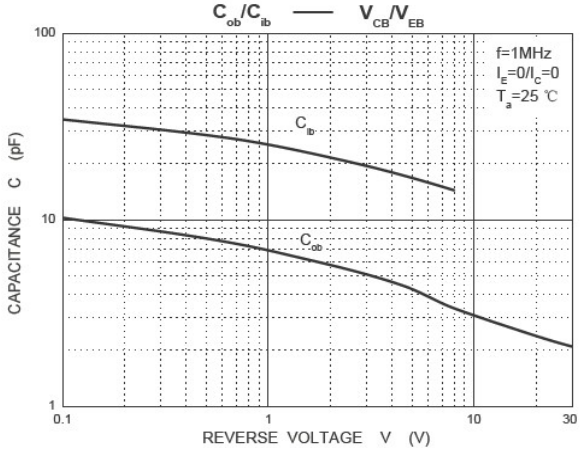
I_C —— V_{BE}



f_T —— I_C



C_{ob}/C_{ib} —— V_{CB}/V_{EB}



P_C —— T_a