2SD1664 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

- Low $V_{CE(sat)}$, $V_{CE(sat)}$=0.15V(typical).(I_C/I_B=500mA/50mA)
- Complements to 2SB1132

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	32	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	1	A
P_C	Collector power dissipation	500	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~150	℃

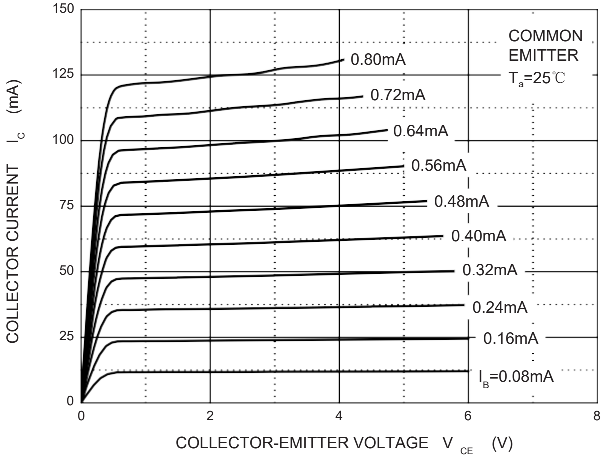
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=50μA, I_E=0	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=50μA, I_C =0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=20V, I_E=0			0.5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			0.5	μA
DC current gain	h_{FE}	V_{CE}=3V, I_C=100mA	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=0.5A, I_B=50mA			0.4	V
Transition frequency	f_T	V_{CE}=5V, I_C=50mA, f=100MHz		150		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		15		pF

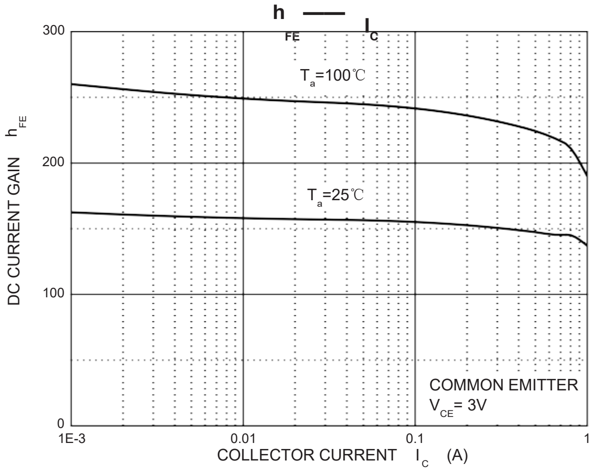
CLASSIFICATION OF h_{FE}

Rank	**P**	**Q**	**R**
Range	82-180	120-270	180-390
Marking	**DAP**	**DAQ**	**DAR**

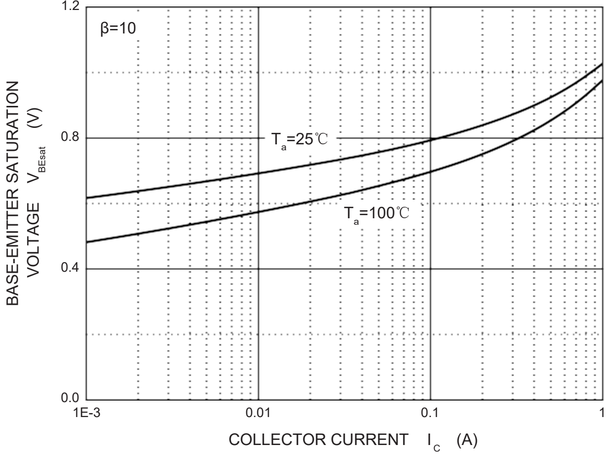
Static Characteristic



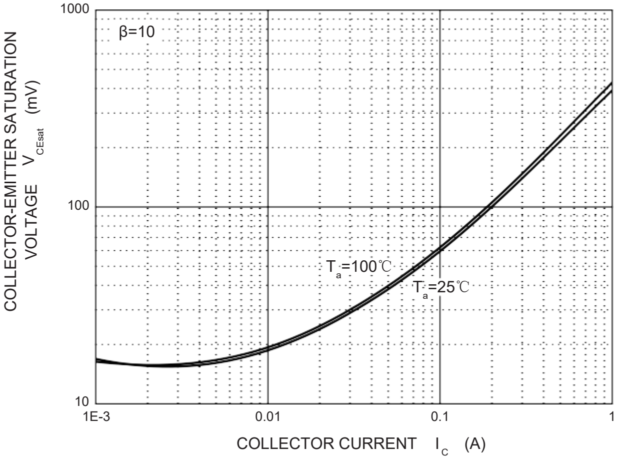
h_{FE} — I_C



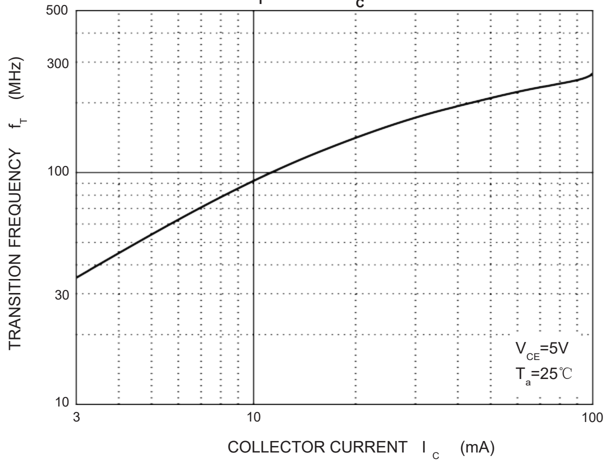
V_{BEsat} — I_C



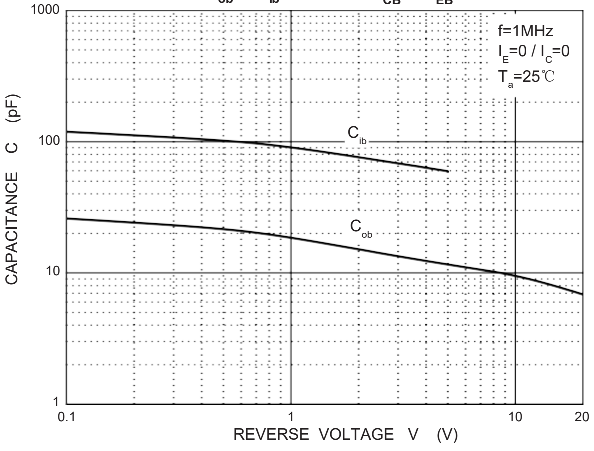
V_{CEsat} — I_C



f_T — I_C



C_{ob} / C_{ib} — V_{CB} / V_{EB}



P_C — T_a