2SD1767 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

- High Breakdown Voltage and Current
- Excellent DC Current Gain Linearity
- Complement the 2SB1189

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	700	mA
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

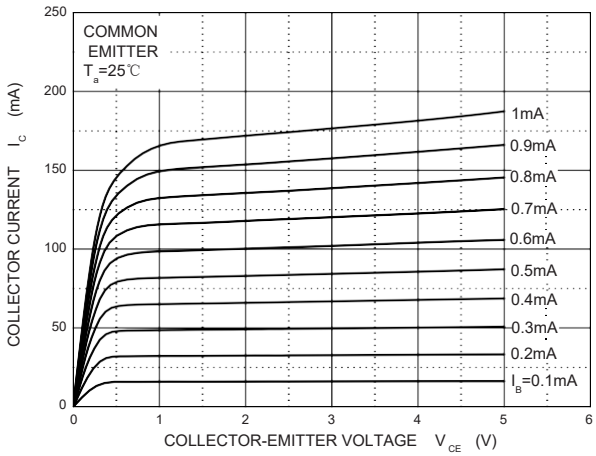
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=50μA,I_E=0	80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=2mA,I_B=0	80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=50μA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=50V,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=500mA,I_B=50mA			0.4	V
Transition frequency	f_T	V_{CE}=10V,I_C=50mA, f=100MHz		120		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		10		pF

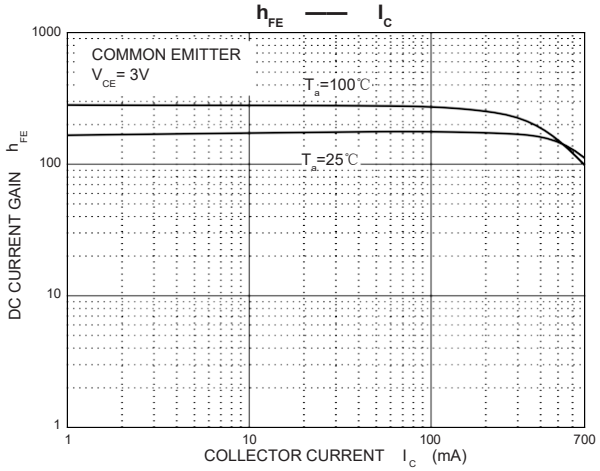
CLASSIFICATION OF h_{FE}

RANK	P	Q	R
RANGE	82 - 180	120 - 270	180 - 390
MARKING	DCP	DCQ	DCR

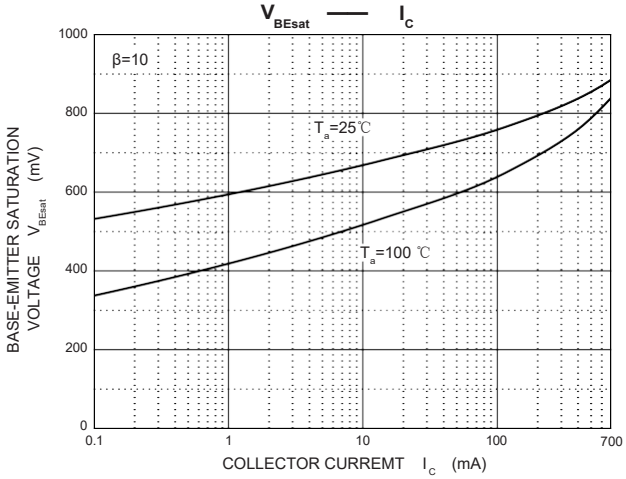
Static Characteristic



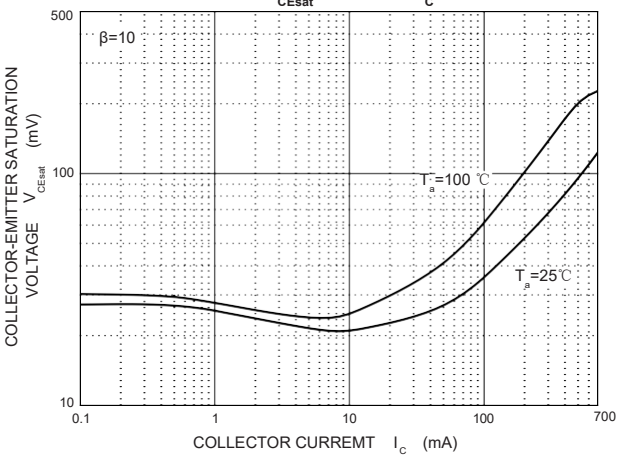
h_{FE} — I_C



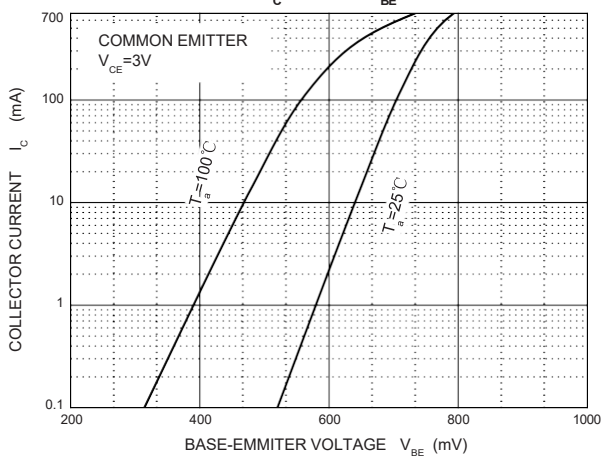
V_{BEsat} — I_C



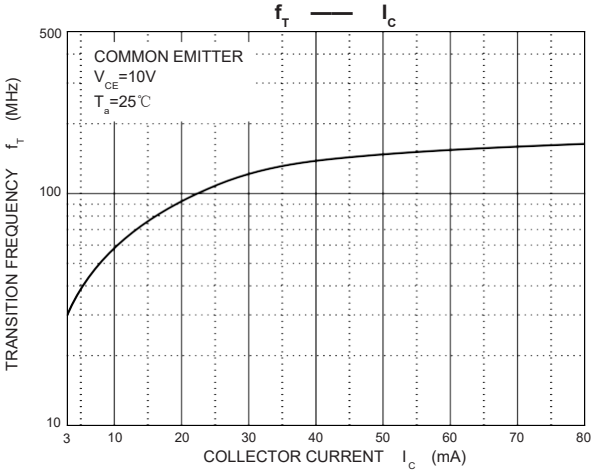
V_{CEsat} — I_C



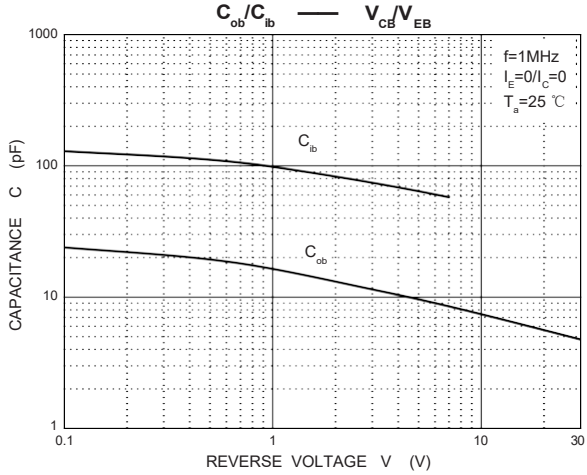
I_C — V_{BE}



f_T — I_C



C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_C — T_a