2SD1760 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

TO-252

FEATURES

- Low $V_{CE(sat)}$. $V_{CE(sat)}$ = 0.5V (Typ.) (I_C/I_B = 2A / 0.2A)
- Complements the 2SB1184.

MAXIMUM RATINGS (T_a=25 ℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	3	A
P_C	Collector Power Dissipation	1.5	W
$R_{\theta JA}$ ①	Thermal Resistance from Junction to Ambient	83.3	℃/W
$R_{\theta JC}$ ②	Thermal Resistance from Junction to Case (T_C=25℃)	8.3	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55 to +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	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=50μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=40V, I_E=0			1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=3V, I_C=500mA	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=2A, I_B=200mA			1	V
Transition frequency	f_T	V_{CE}=5V, I_C=500mA,f=30MHz		90		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		40		pF

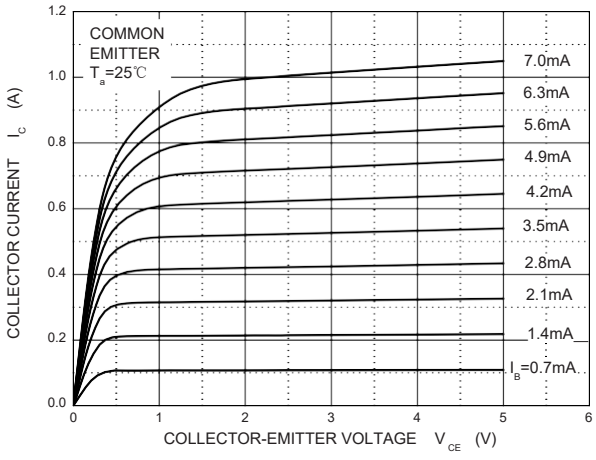
CLASSIFICATION OF $h_{FE(1)}$

Rank	P	Q	R
Range	82-180	120-270	180-390

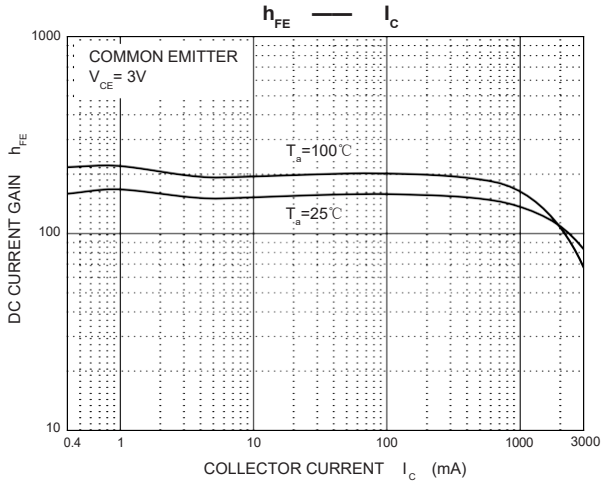
Notes:

1. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with Ta=25℃.
2. TC=25℃ Limited only by maximum temperature allowed.

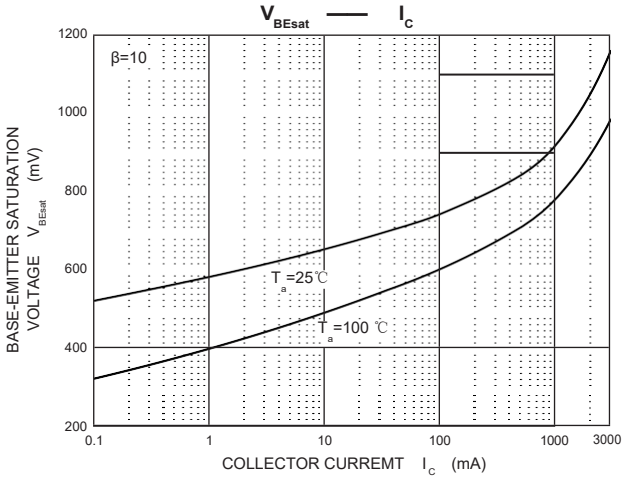
Static Characteristic



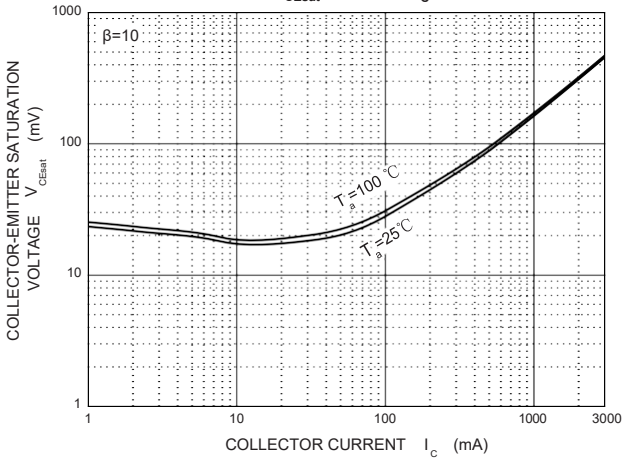
h_{FE} — I_C



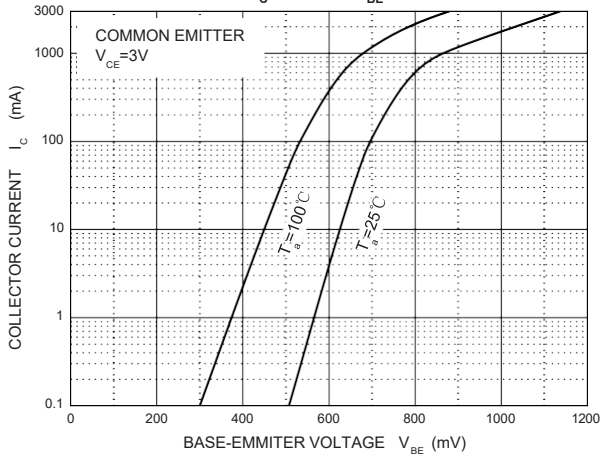
V_{BEsat} — I_C



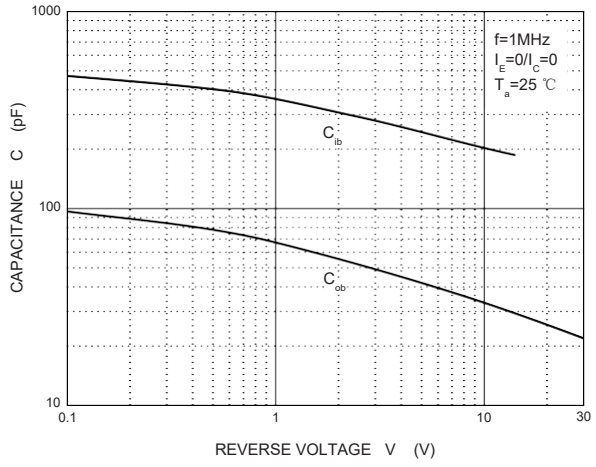
V_{CEsat} — I_C



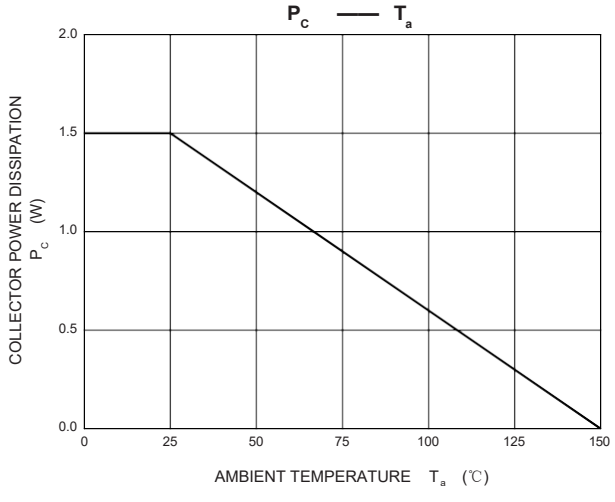
I_C — V_{BE}



C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_C — T_a



MAXIMUM FORWARD BIASED SAFE OPERATING AREA