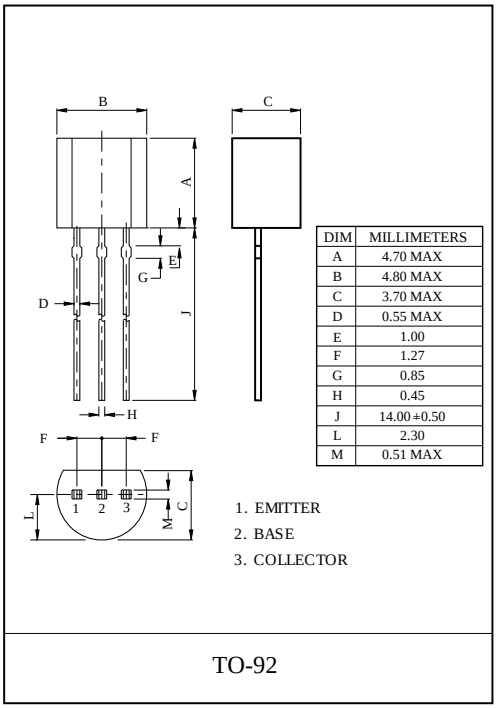
MPS651 TRANSISTOR (NPN)



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.55 MAX
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
L	2.30
M	0.51 MAX

TO-92

FEATURES

- General Purpose Amplifier

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

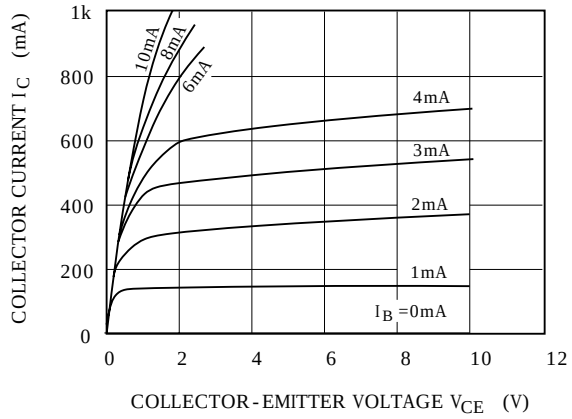
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	2	A
P_C	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	200	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

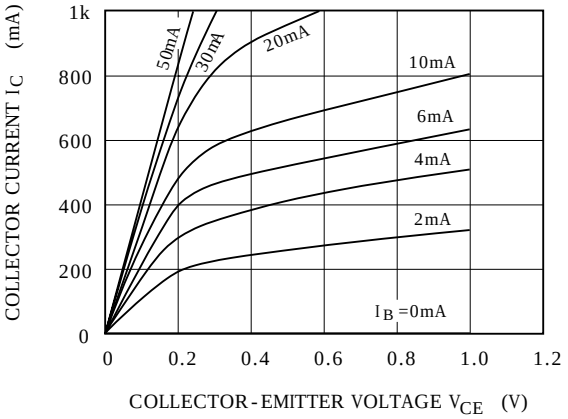
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 0.1mA,I_E=0	80			V
Collector-emitter breakdown	$V_{(BR)CEO}$*	I_C=10mA,I_B=0	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.01mA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=80V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V,I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$*	V_{CE}=2V, I_C=50mA	75			
	$h_{FE(2)}$*	V_{CE}=2V, I_C=500mA	75			
	$h_{FE(3)}$*	V_{CE}=2V, I_C=1A	75			
	$h_{FE(4)}$*	V_{CE}=2V, I_C=2A	40			
Collector-emitter saturation voltage	$V_{CE(sat)\ (1)}$*	I_C=2A,I_B=200mA			0.5	V
	$V_{CE(sat)\ (2)}$*	I_C=1A,I_B=100mA			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$*	I_C=1A,I_B=100mA			1.2	V
Base-emitter voltage	V_{BE}*	I_C=1A, V_{CE}=2V			1	V
Transition frequency	f_T	V_{CE}=5V,I_C=50mA,f=100MHz	75			MHz

*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

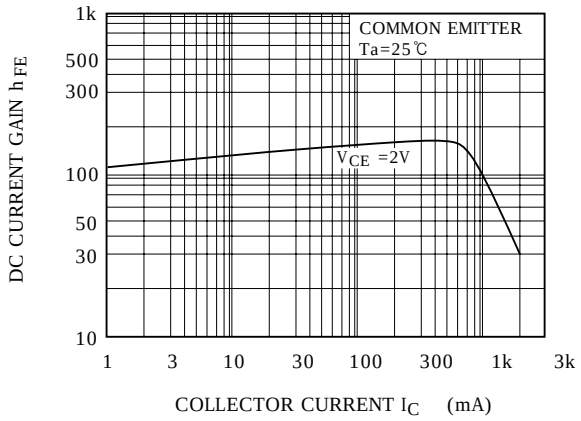
I_C - V_{CE}



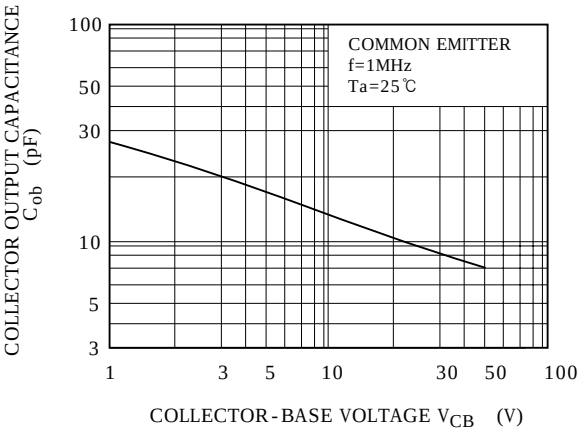
I_C - V_{CE}



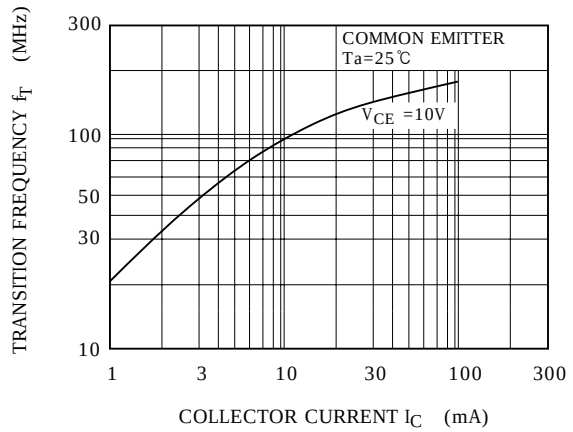
h_{FE} - I_C



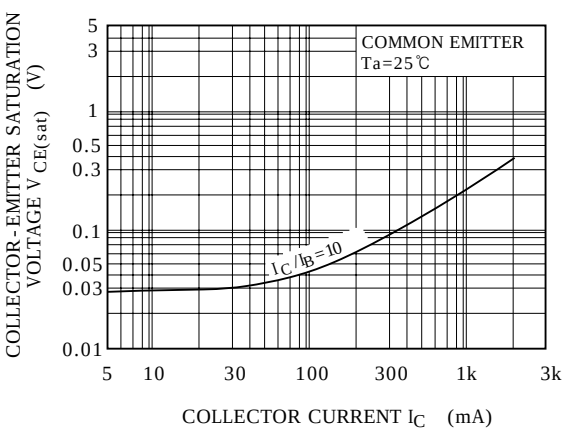
C_{ob} - V_{CB}



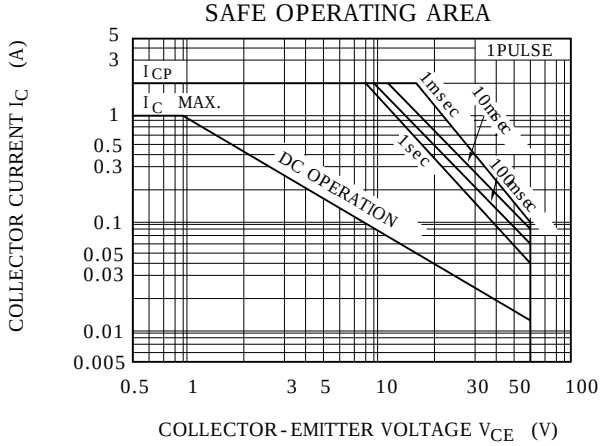
f_T - I_C



$V_{CE(sat)}$ - I_C



SAFE OPERATING AREA



Pc - Ta