

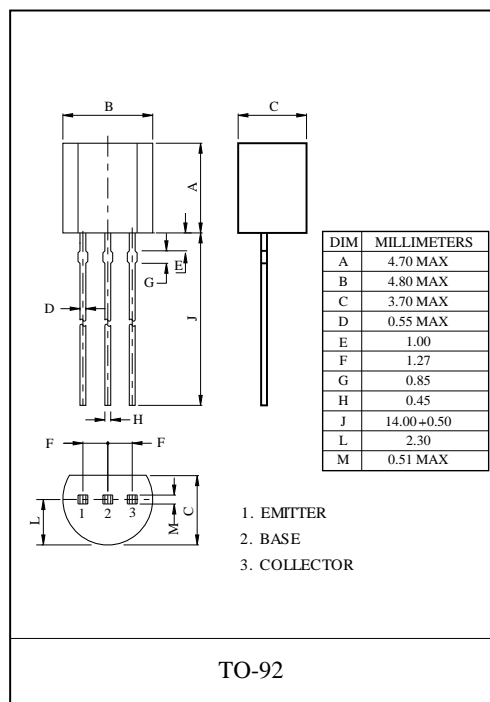
MPS651 TRANSISTOR (NPN)

FEATURES

- General Purpose Amplifier

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	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 _{θJA}	Thermal Resistance From Junction To Ambient	200	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C



ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

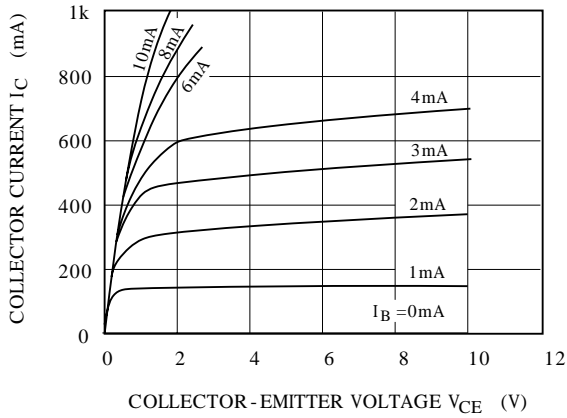
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =0.1mA, I _E =0	80			V
Collector-emitter breakdown	V _{(BR)CEO} *	I _C =10mA, I _B =0	60			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =0.01mA, I _C =0	5			V
Collector cut-off current	I _{CBO}	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 cycles ≤2.0%.

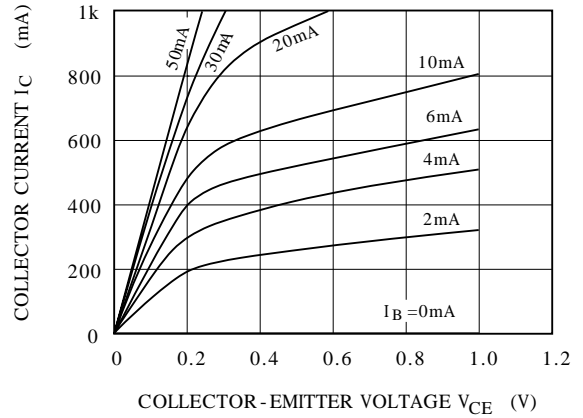


MPS651

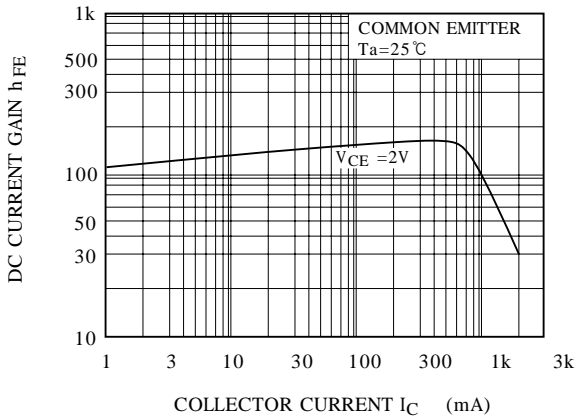
$I_C - V_{CE}$



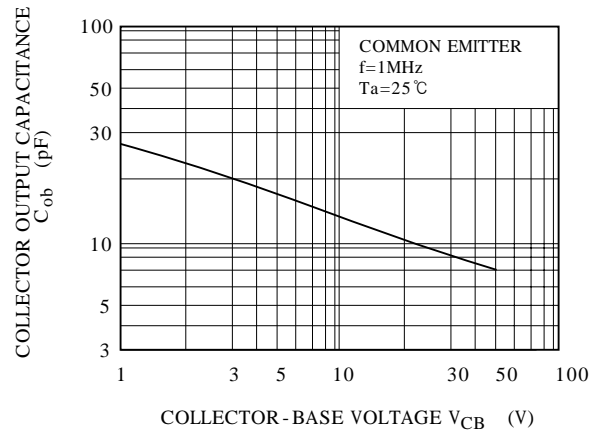
$I_C - V_{CE}$



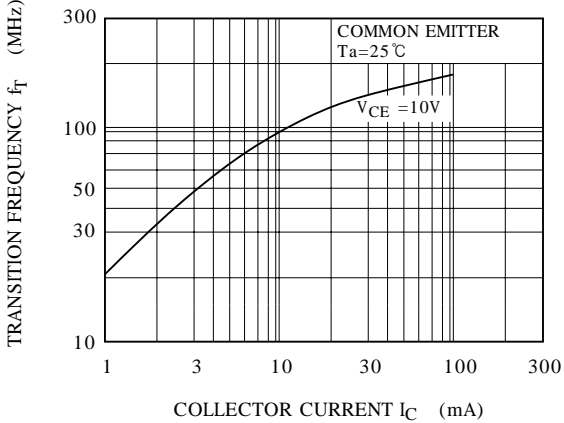
$h_{FE} - I_C$



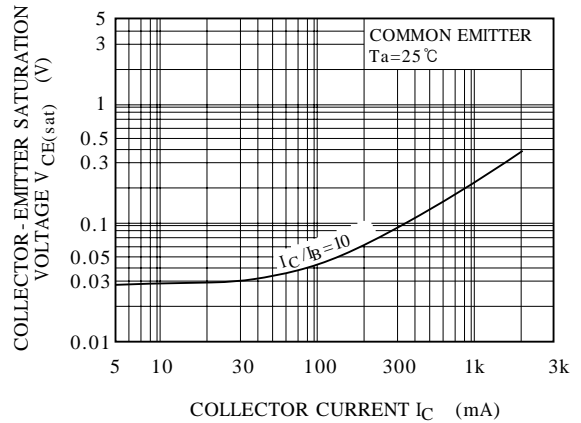
$C_{ob} - V_{CB}$



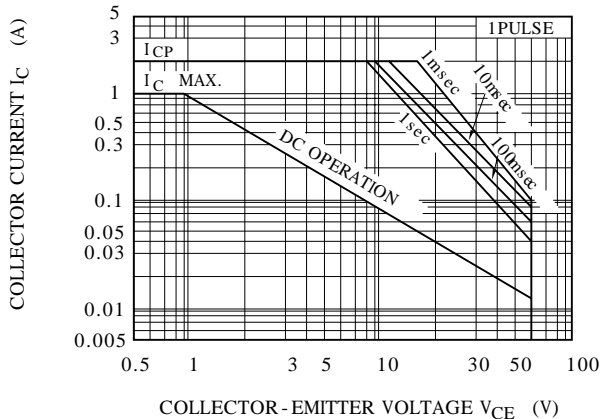
$f_T - I_C$



$V_{CE(sat)} - I_C$



SAFE OPERATING AREA



$P_c - T_a$

