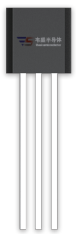
MPS2222A TRANSISTOR (NPN)



TO-92

1.EMITTER

2.COLLECTOR

3.BASE

FEATURE

- Complementary NPN Type available (MPS2907A)

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
MPS2222A	TO-92	Bulk	1000pcs/Bag
MPS2222A-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.6	A
P_D	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	℃ /W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

T_a=25℃ unless otherwise specified

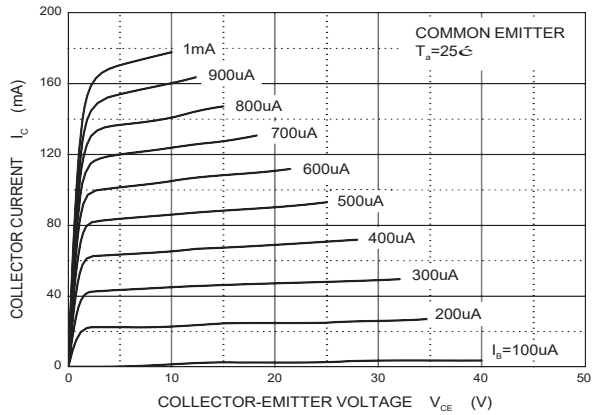
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 10uA , I_E=0	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 10mA , I_B=0	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 10uA, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}= 60V, I_E=0		10	nA
Collector cut-off current	I_{CEX}	V_{CE}= 60V,$V_{EB(Off)}$=3V		10	nA
Emitter cut-off current	I_{EBO}	V_{EB}= 3 V, I_C=0		100	nA
DC current gain	$h_{FE(1)}$	V_{CE}=10V,I_C= 150mA	100	300	
	$h_{FE(2)}$	V_{CE}=10V,I_C= 0.1mA	40		
	$h_{FE(3)}$*	V_{CE}=10V, I_C= 500mA	42		
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$*	I_C= 500mA, I_B=50mA		0.6	V
	$V_{CE(sat)(2)}$*	I_C= 150mA, I_B=15mA		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$*	I_C= 500mA, I_B= 50mA		1.2	V
Delay time	t_d	V_{CC}=30V, $V_{EB(Off)}$=-0.5V,		10	nS
Rise time	t_r	I_C=150mA,I_{B1}=15mA		25	nS
Storage time	t_S	V_{CC}=30V,Ic=150mA,I_{B1}=I_{B2}=15mA		225	nS
Fall time	t_f			60	nS
Transition frequency	f_T	V_{CE}=20V, I_C=20mA, f=100MHz	300		MHz

*pulse test

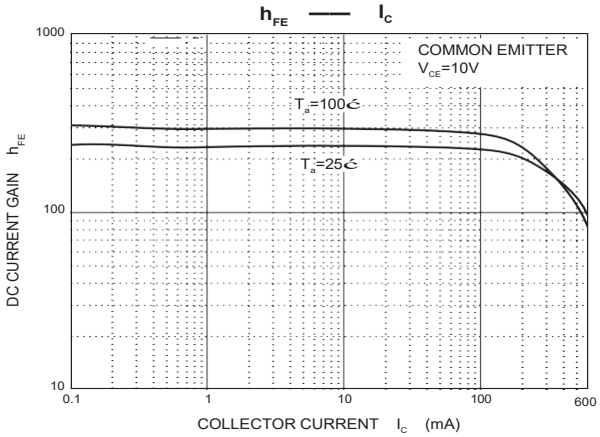
CLASSIFICATION OF $h_{FE(1)}$

Rank	L	H
Range	100-200	200-300

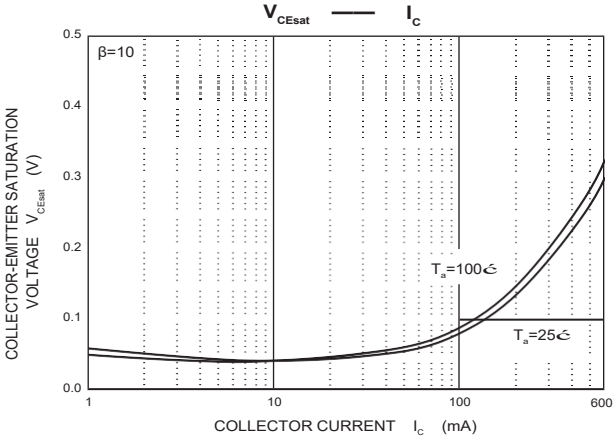
Static Characteristic



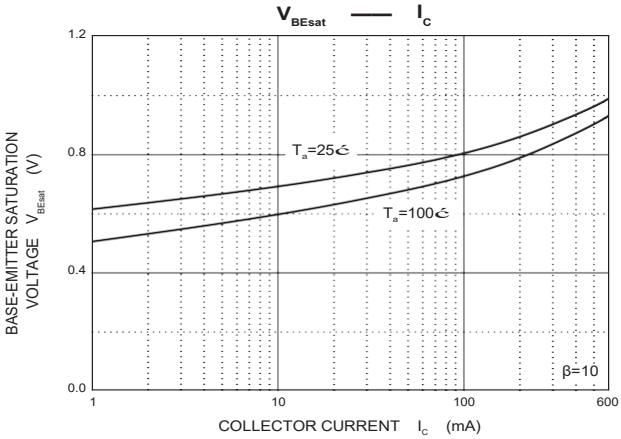
h_{FE} —— I_C



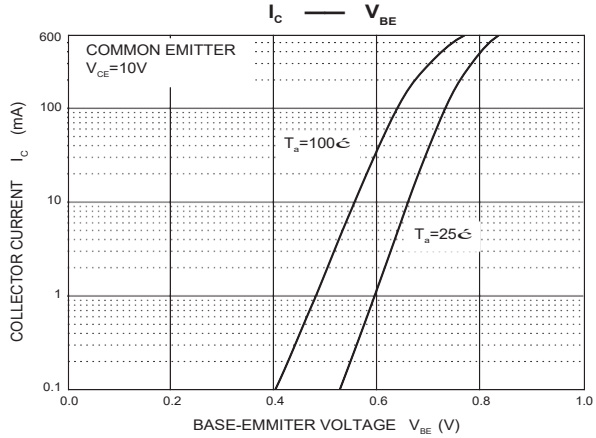
V_{CEsat} —— I_C



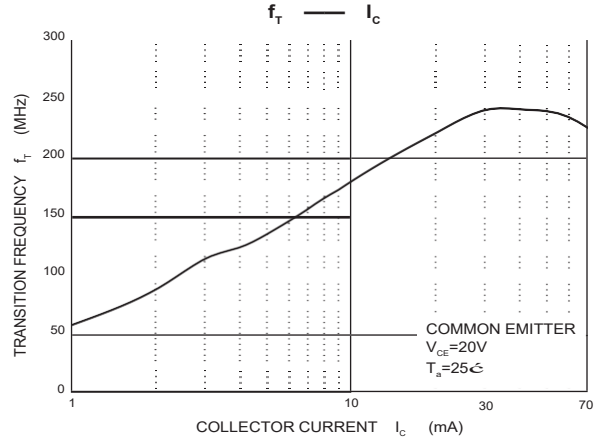
V_{BEsat} —— I_C



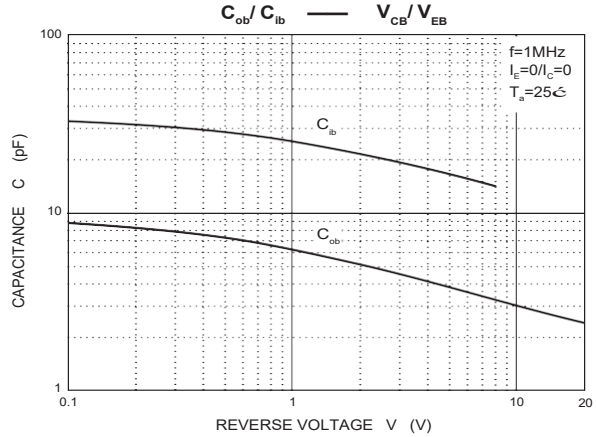
I_C —— V_{BE}



f_T —— I_C



C_{ob}/ C_{ib} —— V_{CB}/ V_{EB}



P_C —— T_a