

MPS2222A

TO-92 Transistor (NPN)



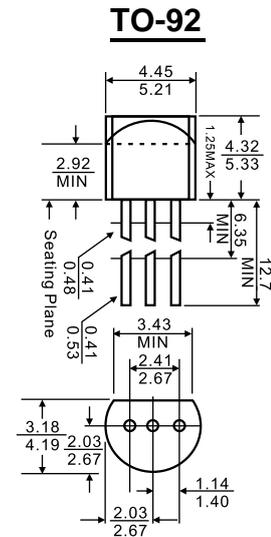
1. EMITTER
2. BASE
3. COLLECTOR

Features

◇ Complementary NPN Type available (MPS2907A)

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
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	600	mA
P_C	Collector Power Dissipation	625	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$



Dimensions in inches and (millimeters)

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

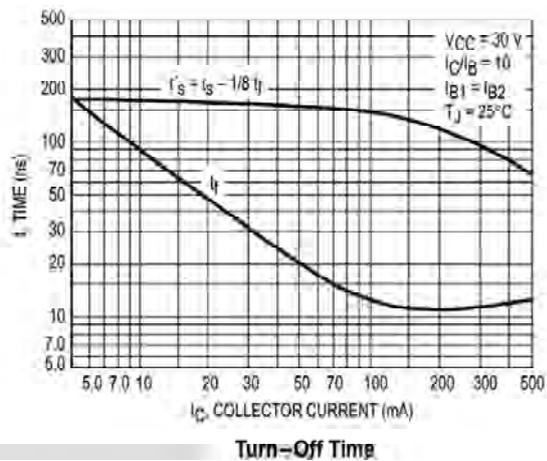
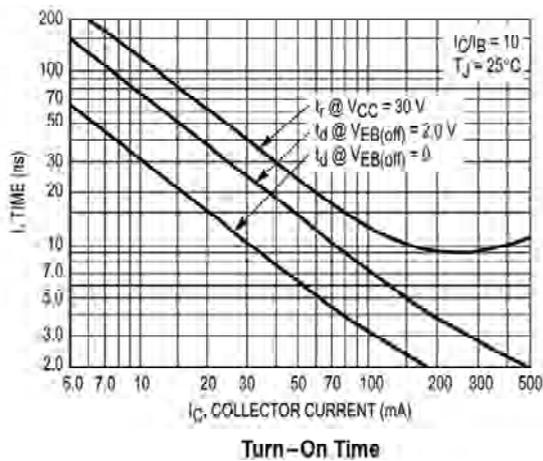
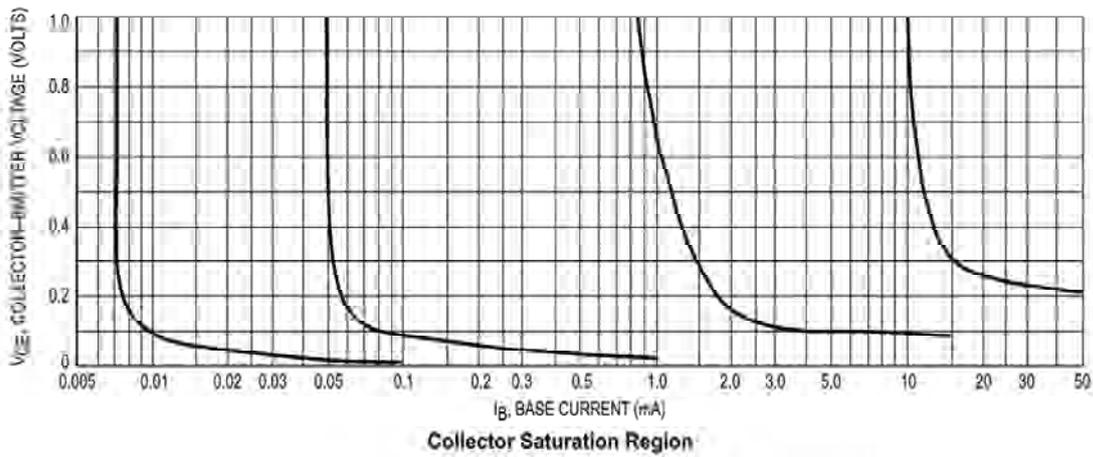
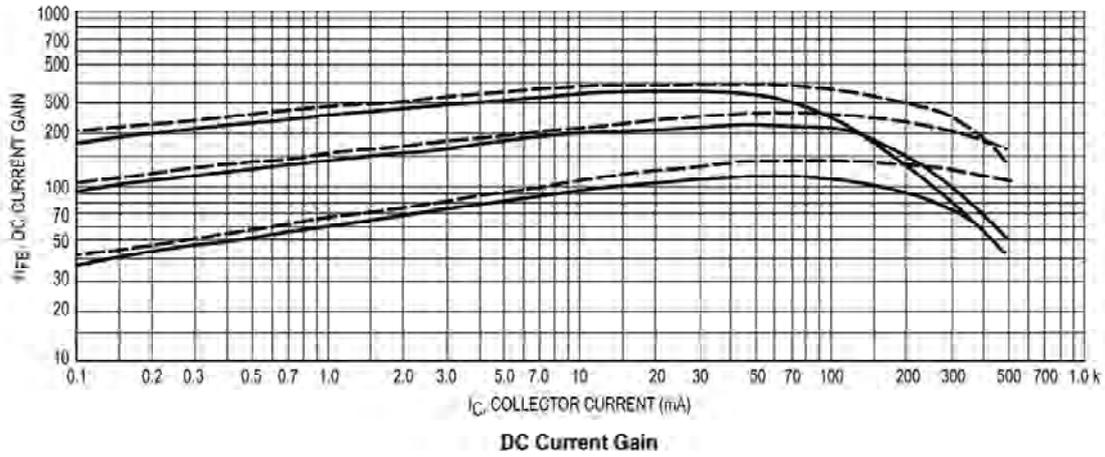
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}$, $I_E=0$	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$, $I_C=0$	6		V
Collector cut-off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

^{*}pulse test

CLASSIFICATION OF $h_{FE(1)}$

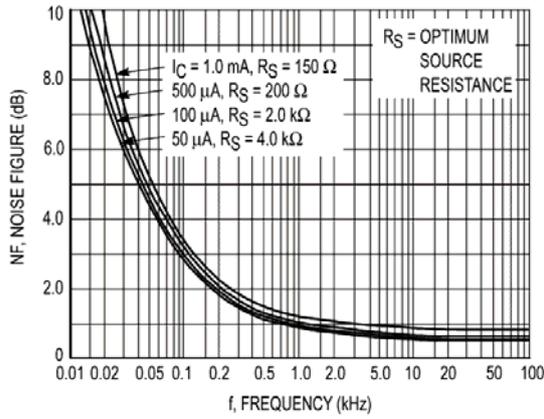
Rank	L	H
Range	100-200	200-300

Typical characteristics

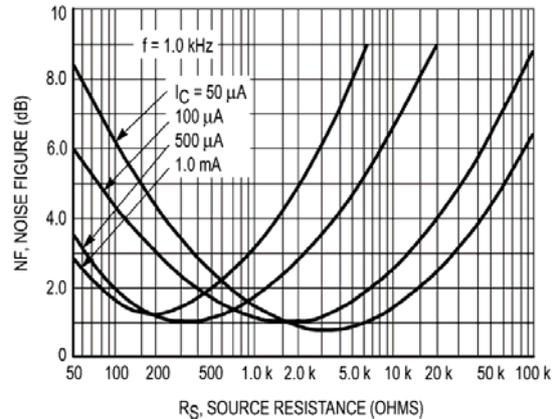


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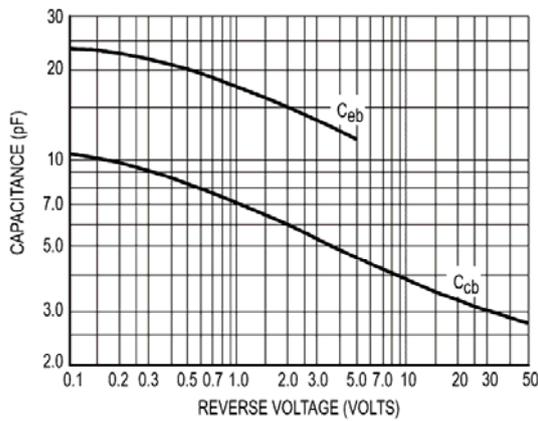
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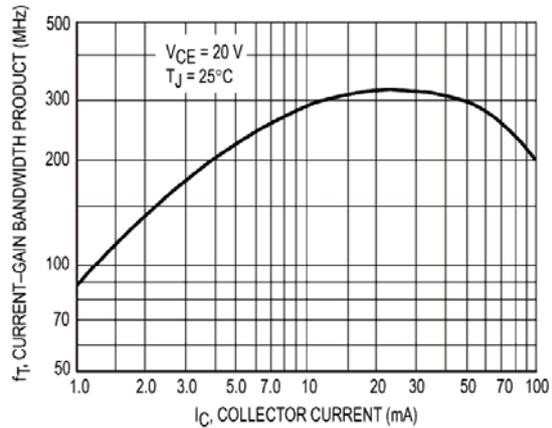
Frequency Effects



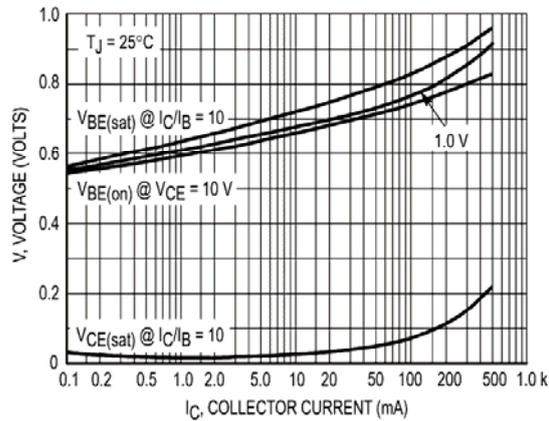
Source Resistance Effects



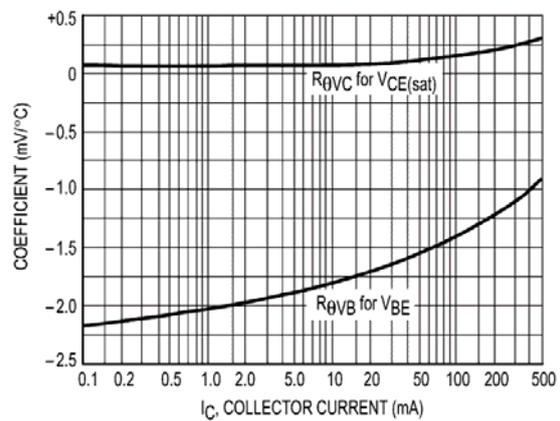
Capacitances



Current-Gain Bandwidth Product



"On" Voltages



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