

TO-92 Plastic-Encapsulate Transistors

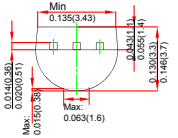
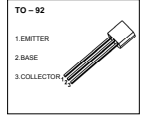
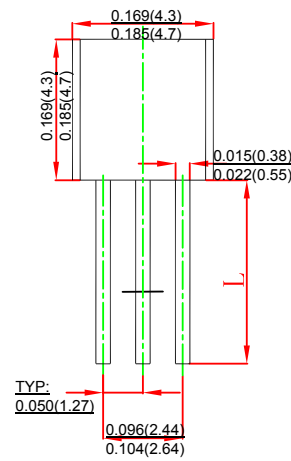
FEATURE

- Complementary NPN Type available (MPS2907A)
- TRANSISTOR (NPN)

MECHANICAL DATA

- Case style: TO-92 molded plastic
- Mounting position: any

TO-92



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	75	V
V_{CE0}	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	°C/W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55~+150	°C

ORDERING INFORMATION

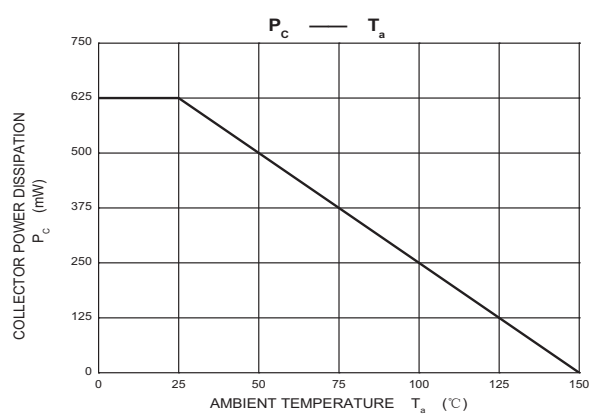
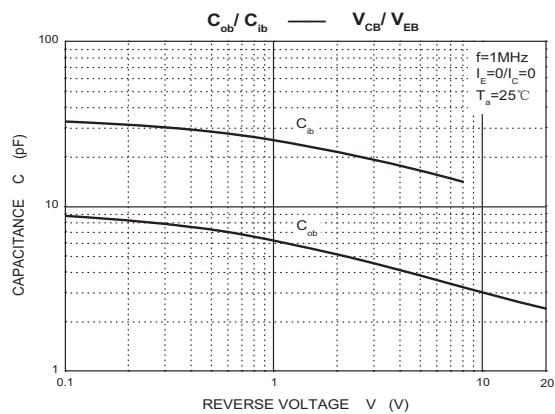
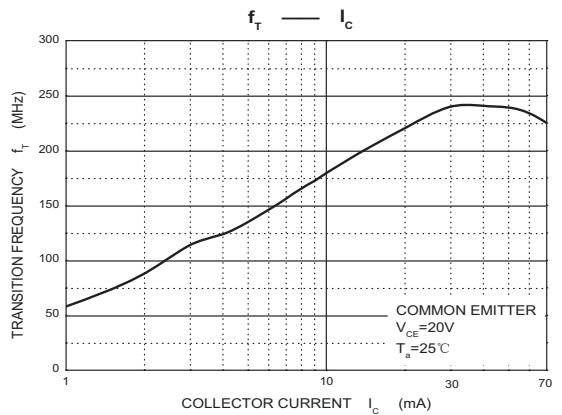
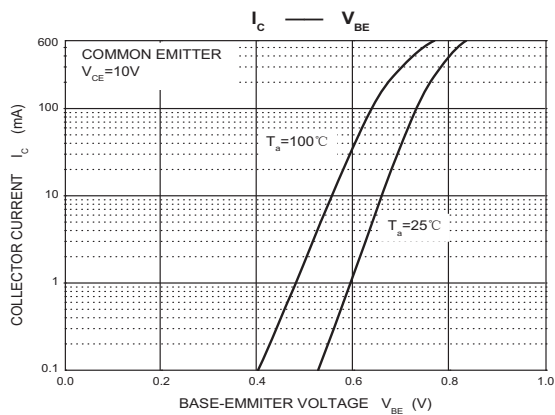
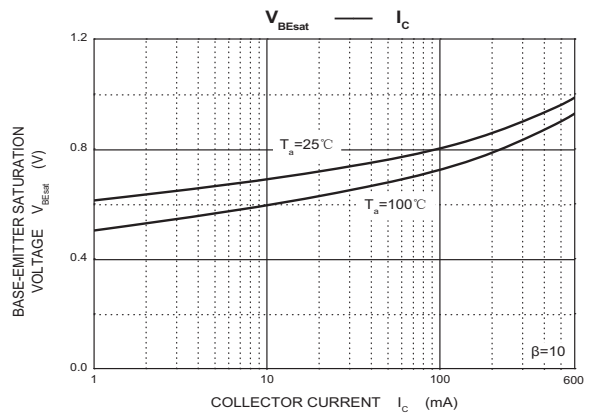
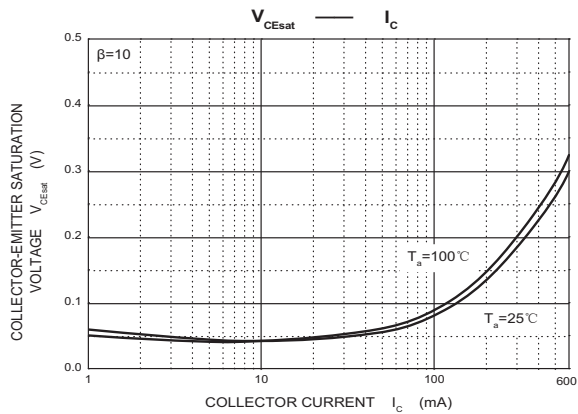
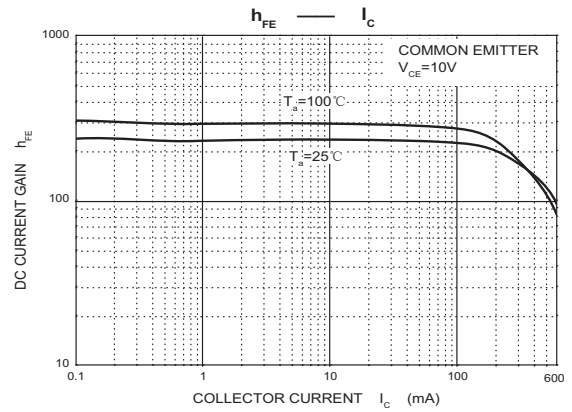
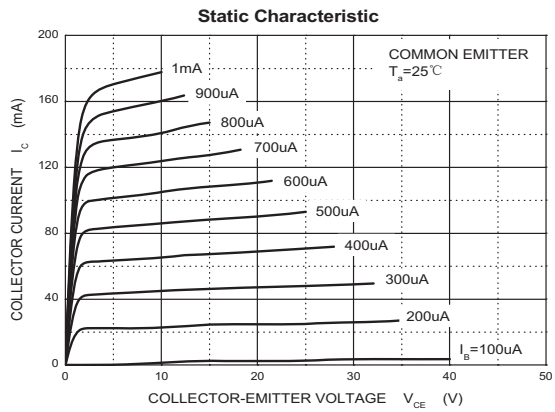
Part Number	Package	Packing Method	Pack Quantity
MPS2222A	TO-92	Bulk	1000pcs/Bag
MPS2222A-TA	TO-92	Tape	2000pcs/Box

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	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}	$V_{EB} = 3V, I_C = 0$		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	$I_C = 150mA, I_B = 15mA$		25	nS
Storage time	t_s	$V_{CC} = 30V, I_C = 150mA, I_{B1} = I_{B2} = 15mA$		225	nS
Fall time	t_f			60	nS
Transition frequency	f_T	$V_{CE} = 20V, I_C = 20mA, f = 100MHz$	300		MHz

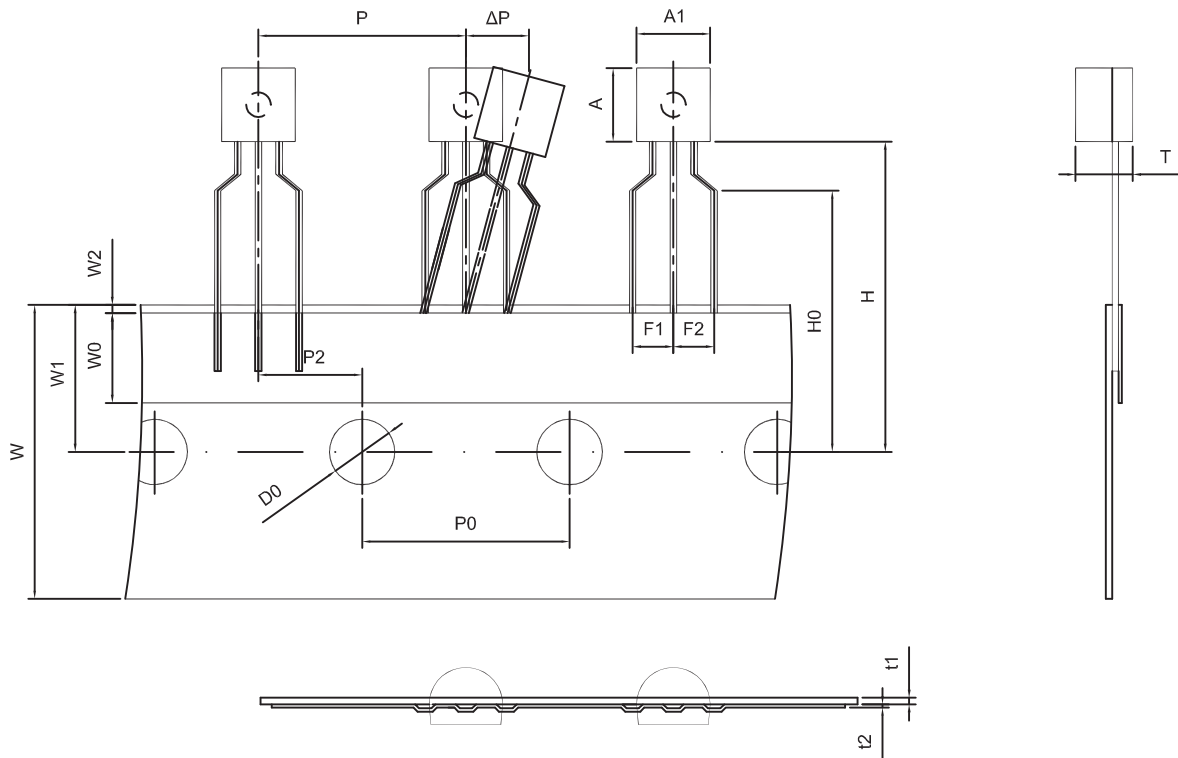
* pulse test

CLASSIFICATION OF $h_{FE(1)}$

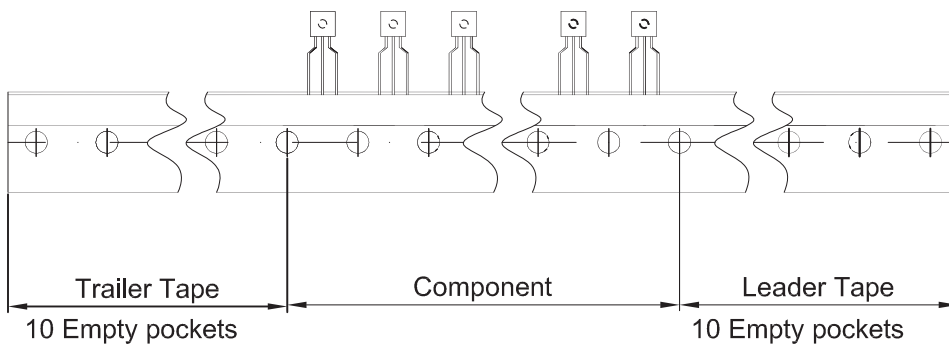
Rank	L	H
Range	100-200	200-300



TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250