

# TO-92 Plastic Package Transistors (NPN)

Maximum Ratings						Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																			
Type No.	V <sub>CB0</sub> (V)	V <sub>CE0</sub> (V)	V <sub>EB0</sub> (V)	P <sub>D</sub> (W)	I <sub>C</sub> (A)	I <sub>CB0</sub> (μA)	V <sub>CB</sub> (V)	I <sub>CES</sub> (μA)	V <sub>CE</sub> (V)	h <sub>FE</sub>	I <sub>C</sub> & V <sub>CE</sub>	V <sub>CE(SAT)</sub> (V)	V <sub>BE(SAT)</sub> (V)	I <sub>C</sub> (mA)	C <sub>ob</sub> (pF)	f <sub>t</sub> (MHz)	t <sub>on</sub> (ns)	N <sub>F</sub> (dB)	Freq (MHz)	C <sub>m</sub> (pF)	CDIL Case Style				
	Min	Min	Min	@ Tc=25°C	Max	Max	Max	Max	Min	Max	Max	Max	Max	Max	Typ	Min	Typ	Max	Max	Max	Max				
MPS8099	80	80	6	0.625	0.5	0.1	60			100	300	1	5	0.3		100	6	150				TO-92			
										100		10	5									TO-92			
										75		100	5									TO-92			
MPS834	40		5	0.625	0.2	0.5	20	0.01	30	25		10	1	0.25		0.9	10	4	350		10	30	TO-92		
												0.4		0.9		50							TO-92		
MPS918	30	15	3	0.355	0.05	0.01	15			20		3	1	0.4		1	10	1.7			6	60	TO-92		
MPSA05	60	60	4	0.625	0.5	0.1	60			50		10	1	0.25		100							TO-92		
										50		100	1										TO-92		
MPSA06	80	80	4	0.625	0.5	0.1	80			50		10	1	0.25		100							TO-92		
										50		100	1										TO-92		
MPSA09	50	50		0.625	0.1	0.1	25			100	600	0.1	5	0.9		10	5	30					TO-92		
MPSA10		40	4	0.625	0.1	0.1	30			40	400	5	10				4	50					TO-92		
*MPSA13	30	\$30	10	0.625	0.5	0.1	30			5		10	5	1.5		100	5	125	200		10	2	0.001	TO-92	
										10		100	5										TO-92		
MPSA20	40	40	4	0.625	0.1	0.1	30			40	400	5	10	0.25		10		4	125		5		TO-92		
MPSA42	300	300	6	0.625	0.5	0.1	200			25		1	10	0.5		0.9	20	3	50		1		TO-92		
										40		10	10										TO-92		
										40		30	10										TO-92		
MPSA43	200	200	6	0.625	0.5	0.1	160			25		1	10	0.4		0.9	20	4	50		10		TO-92		
										40		10	10										TO-92		
										50	200	30	10										TO-92		
MPSA44	500	400	6	0.625	0.3	0.1	400	0.5	400	40		1	10	0.4		1	7						TO-92		
										50	200	10	10	0.5		0.75	10						TO-92		
										45		50	10	0.75		50							TO-92		
										40		100	10										TO-92		
MPSA45	400	350	6	0.625	0.3	0.1	320	0.5	320	40		1	10	0.4		1	7						TO-92		
										50	200	10	10	0.5		0.75	10						TO-92		
										45		50	10	0.75		50							TO-92		
										40		100	10										TO-92		
MPSH10	30	25	3	0.35		0.1	25			60		4	10	0.5		4	0.7	650			4		TO-92-3		
MPSH11	30	25	3	0.35		0.1	25			60		4	10	0.5		4		650			4		TO-92-3		
MPSH19	30	25	3	0.35		0.1	15			45		4	10				0.7	300			4		TO-92-3		
MPSH20	40	30	4	0.35	0.1	0.05	15			25		4	10				0.7	400			4		TO-92-3		
MPSH24	40	30	4	0.35	0.1	0.05	15			30		8	10				0.4	400			8		TO-92-3		
MPSH30	20	20	3	0.625	0.05	0.05	10			20	200	4	5	3		0.96	10	0.7	300		800	4	6	45	TO-92-3
MPSH31	20	20	3	0.625	0.05	0.05	10			20	200	4	5	0.3		0.96	10	0.7	300		800	4	6	45	TO-92-3
MPSH32	40	30	4	0.625		0.05	10			27	200	4	5	3		1.2	10	0.2	300		4			TO-92-3	
MPSH34	45	45	4	0.35	0.1	0.05	30			15		20	2	0.5		20		0.3	500		15			TO-92-3	
										40		7	15										TO-92-3		
MPSH37		40	5	0.35	0.1	0.5	35			25		5	10	0.5		10		0.7	300		5			TO-92-3	
MPSL01	140	120	5	0.625	0.15	1	75			50	300	10	5	0.2		1.2	10	8	60		10			TO-92	
										0.3		1.4	50											TO-92	
P2N2222	60	30	5	0.625	0.6	0.01	50			35		0.1	10	0.4		1.3	150	8	250		20		100	TO-92-4	
										50		1	10	1.6		2.6	500							TO-92-4	
										75		10	10											TO-92-4	
										50		150	1											TO-92-4	
										100	300	150	10											TO-92-4	
										30		500	10											TO-92-4	

\* NOTE : hFE values are K.

\$ V<sub>CES</sub>