

MPS6520, MPS6521 (NPN) and MPS6522, MPS6523 (PNP) are complementary silicon planar epitaxial transistors designed for general purpose amplifier applications and for complementary circuitry.

ABSOLUTE MAXIMUM RATINGS

		MPS6520,1	MPS6522,3
Collector-Base Voltage	V_{CB0}	40V	25V
Collector-Emitter Voltage	V_{CE0}		25V
Emitter-Base Voltage	V_{EB0}		4V
Collector Current	I_C		100mA
Total Power Dissipation @ $T_A=25^{\circ}\text{C}$ $T_C=25^{\circ}\text{C}$	P_{tot}		350mW 1W
Operating Junction & Storage Temperature	T_j, T_{stg}		-55 to +150°C

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

PARAMETER	SYMBOL	MIN	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	BV_{CE0}	25		V	$I_C=0.5\text{mA}$ $I_B=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	4		V	$I_E=10\mu\text{A}$ $I_C=0$
Collector Cutoff Current	I_{CB0}				
			50	nA	$V_{CB}=30\text{V}$ $I_E=0$
MPS6520,1			1	μA	$V_{CB}=30\text{V}$ $T_A=60^{\circ}\text{C}$
MPS6522,3			50	nA	$V_{CB}=20\text{V}$ $I_E=0$
MPS6522,3			1	μA	$V_{CB}=20\text{V}$ $T_A=60^{\circ}\text{C}$
D.C. Current Gain	H_{FE}	100			$I_C=100\mu\text{A}$ $V_{CE}=10\text{V}$
MPS6521,3		150			
MPS6520,2		200			$I_C=2\text{mA}$ $V_{CE}=10\text{V}$
MPS6521,3		300			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.5	V	$I_C=50\text{mA}$ $I_B=5\text{mA}$



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ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

PARAMETER	SYMBOL	TYP	MAX	UNIT	TEST CONDITIONS
Current Gain-Bandwidth Product	f_T			MHz	
MPS6520,1		390			$I_C=2\text{mA}$ $V_{CE}=10\text{V}$
MPS6522,3		340			
MPS6520,1		480			$I_C=10\text{mA}$ $V_{CE}=10\text{V}$
MPS6522,3		420			
Output Capacitance	C_{ob}		3.5	pF	$V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$
Noise Figure	NF	1.8	3	dB	$I_C=10\mu\text{A}$ $V_{CE}=5\text{V}$ $R_S=10\text{k}\Omega$ $f=10\text{Hz to } 10\text{kHz}$ $BB=15.7\text{kHz}$

TYPICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

