

CASE TO-92A

THE MPS6530 THROUGH MPS6535 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR GENERAL PURPOSE AMPLIFIERS AND MEDIUM SPEED SWITCHING APPLICATIONS UP TO 600mA COLLECTOR CURRENT. THE MPS6530, MPS6531, MPS6532 ARE NPN AND ARE COMPLEMENTARY TO THE PNP MPS6533, MPS6534, MPS6535 RESPECTIVELY.



ABSOLUTE MAXIMUM RATINGS		NPN		PNP	
		MPS6530 MPS6531	MPS6532	MPS6533 MPS6534	MPS6535
Collector-Base Voltage	V_{CB0}	60V	50V	40V	30V
Collector-Emitter Voltage	V_{CE0}	40V	30V	40V	30V
Emitter-Base Voltage	V_{EB0}	5V	5V	4V	4V
Collector Current	I_C	0.6A			
Total Power Dissipation ($T_C \leq 25^\circ C$)	P_{tot}	1.2W			
	($T_A \leq 25^\circ C$)	500mW			
Operating Junction & Storage Temperature	T_j, T_{stg}	-55 to $150^\circ C$			

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ C$ unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535	BV_{CB0}	60 50 40 30			V V V V	$I_C = 0.01mA$ $I_E = 0$
Collector-Emitter Breakdown Voltage MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535	$LV_{CE0} *$	40 30 40 30			V V V V	$I_C = 10mA$ $I_B = 0$
Emitter-Base Breakdown Voltage MPS6530, 1, 2 MPS6533, 4, 5	BV_{EB0}	5 4			V V	$I_E = 0.01mA$ $I_C = 0$
Collector Cutoff Current MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535	IC_{BO}			50 100 50 100	nA nA nA nA	$V_{CB} = 40V$ $I_E = 0$ $V_{CB} = 30V$ $I_E = 0$ $V_{CB} = 30V$ $I_E = 0$ $V_{CB} = 20V$ $I_E = 0$

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Collector Cutoff Current MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535	I_{CBO}	2 5 2 5	μA μA μA μA	$V_{CB}=40V$ $I_E=0$ $T_A=60^\circ C$ $V_{CB}=30V$ $I_E=0$ $T_A=60^\circ C$ $V_{CB}=30V$ $I_E=0$ $T_A=60^\circ C$ $V_{CB}=20V$ $I_E=0$ $T_A=60^\circ C$
Collector-Emitter Saturation Voltage MPS6530, MPS6532 MPS6531 MPS6533, MPS6535 MPS6534	$V_{CE(sat)}^*$	0.5 0.3 0.5 0.3	V V V V	$I_C=100mA$ $I_B=10mA$;
Base-Emitter Saturation Voltage MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535	$V_{BE(sat)}^*$	1.0 1.2 1.0 1.2	V V V V	$I_C=100mA$ $I_B=10mA$
D.C. Current Gain MPS6530, MPS6533	H_{FE}^*	30 40 25	120	$I_C=10mA$ $V_{CE}=1V$ $I_C=100mA$ $V_{CE}=1V$ $I_C=500mA$ $V_{CE}=10V$
D.C. Current Gain MPS6531, MPS6534	H_{FE}^*	60 90 50	270	$I_C=10mA$ $V_{CE}=1V$ $I_C=100mA$ $V_{CE}=1V$ $I_C=500mA$ $V_{CE}=10V$
D.C. Current Gain MPS6532, MPS6535	H_{FE}^*	30		$I_C=100mA$ $V_{CE}=1V$
Collector-Base Capacitance MPS6530, 1, 2 MPS6533, 4, 5	C_{ob}	3.8 4.8	5 6 pF pF	$V_{CB}=10V$ $I_E=0$ $f=100kHz$
Current Gain-Bandwidth Product	f_T	250	MHz	$I_C=50mA$ $V_{CE}=10V$

* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%

