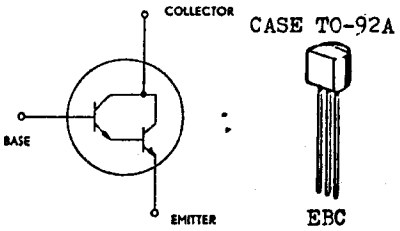
MICRO ELECTRONICS

MPS-A13
MPS-A14
MPS-A65
MPS-A66

THE MPS-A13, MPS-A14 (NPN) AND MPS-A65, MPS-A66 (PNP) ARE SILICON PLANAR EPITAXIAL DARLINGTON TRANSISTORS FOR AF AMPLIFIERS REQUIRING HIGH INPUT IMPEDANCE.



ABSOLUTE MAXIMUM RATINGS

For p-n-p devices, voltage and current values are negative.

		MPS-A13(NPN) MPS-A14(NPN)	MPS-A65(PNP) MPS-A66(PNP)
Collector-Emitter Voltage (V_{BE}=0)	V_{CES}	30V	30V
Emitter-Base Voltage	V_{EBO}	10V	8V
Collector Current	I_C	0.3A	
Total Power Dissipation ($T_C \leqslant 25^oC$)	P_{tot}	1.2W	
($T_A \leqslant 25^oC$)		0.5W	
Operating Junction & Storage Temperature	T_j. T_{stg}	-55 to 150°C	

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage		BVCES	30			V	I_C=0.1mA I_B=0
Collector Cutoff Current		I_{CBO}			100	nA	V_{CB}=30V I_E=0
Emitter Cutoff Current		I_{EBO}			100	nA	V_{EB}=V_{EBO} I_C=0
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$*		0.75	1.5	V	I_C=100mA I_B=0.1mA
Base-Emitter Voltage		V_{BE} *		1.35	2.0	V	I_C=100mA V_{CE}=5V
D.C. Current Gain	MPS-A13	H_{FE} *	5			x10^3	I_C=10mA V_{CE}=5V
	MPS-A14		10			x10^3	
	MPS-A65		50			x10^3	
	MPS-A66		75			x10^3	
D.C. Current Gain	MPS-A13	H_{FE} *	10			x10^3	I_C=100mA V_{CE}=5V
	MPS-A14		20			x10^3	
	MPS-A65		20			x10^3	
	MPS-A66		40			x10^3	
Current Gain-Bandwidth Product		f_T					I_C=10mA V_{CE}=5V
	MPS-A13, 14		125			MHz	
	MPS-A65, 66		100			MHz	
Collector-Base Capacitance		Cob					V_{CB}=10V I_E=0
	MPS-A13, 14			3		pF	f=100kHz
	MPS-A65, 66			4		pF	
Noise Figure (f=1kHz R_G=100KΩ)		NF		2		dB	I_C=1mA V_{CE}=5V

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

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TYPICAL CHARACTERISTICS
(T_A=25°C unless otherwise noted)