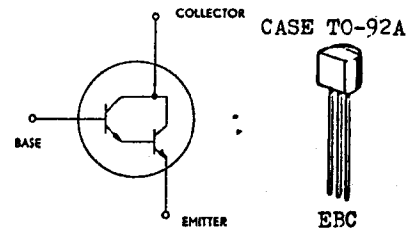


THE MPS-A13, MPS-A14 (NPN) AND MPS-A65, MPS-A66 (PNP) ARE SILICON PLANAR EPITAXIAL DARLINGTON TRANSISTORS FOR AF AMPLIFIERS REQUIRING HIGH INPUT IMPEDANCE.



**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 ( $T_C \leq 25^\circ C$ )	$P_{tot}$		1.2W
( $T_A \leq 25^\circ C$ )			0.5W
Operating Junction & Storage Temperature	$T_j, T_{stg}$		-55 to 150°C

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	$BV_{CES}$	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	$H_{FE}$ *					$I_C=10mA, V_{CE}=5V$
	MPS-A13	5			$\times 10^3$	
	MPS-A14	10			$\times 10^3$	
	MPS-A65	50			$\times 10^3$	
	MPS-A66	75			$\times 10^3$	
D.C. Current Gain	$H_{FE}$ *					$I_C=100mA, V_{CE}=5V$
	MPS-A13	10			$\times 10^3$	
	MPS-A14	20			$\times 10^3$	
	MPS-A65	20			$\times 10^3$	
	MPS-A66	40			$\times 10^3$	
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	$C_{ob}$					$V_{CB}=10V, I_E=0$
	MPS-A13, 14		3		pF	$f=100kHz$
	MPS-A65, 66		4		pF	
Noise Figure ( $f=1kHz, R_G=100\Omega$ )	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<sub>A</sub>=25°C unless otherwise noted)

