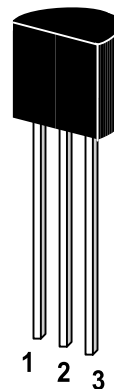


MPSH17

NPN Silicon Epitaxial Planar Transistor

The transistor is subdivided into one group according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.

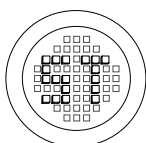


1. Emitter 2. Base 3. Collector
TO-92 Plastic Package
Weight approx. 0.19g

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current	I_{C}	50	mA
Total Device Dissipation @ $T_a=25^\circ\text{C}$	P_{tot}	350	mW
Derate above 25°C		2.81	mW/°C
Junction Temperature	T_{j}	-55 to +150	°C
Storage Temperature Range	T_{S}	-55 to +150	°C

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MPSH17

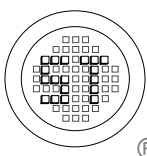
Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $I_C=5.0\text{mA}$, $V_{CE}=10\text{V}$	h_{FE}	25	-	250	-
Collector Cutoff Current at $V_{CB}=15\text{V}$	I_{CBO}	-	-	100	nA
Collector-Base Breakdown Voltage at $I_C=100\mu\text{A}$	$V_{(BR)CBO}$	20	-	-	V
Collector-Emitter Breakdown Voltage at $I_C=1.0\text{mA}$	$V_{(BR)CEO}$	15	-	-	V
Emitter-Base Breakdown Voltage at $I_E=10\mu\text{A}$	$V_{(BR)EBO}$	3.0	-	-	V
Collector-Emitter Saturation Voltage at $I_C=10\text{mA}$, $I_B=1.0\text{mA}$	$V_{CE(sat)}$	-	-	0.5	V
Current-Gain—Bandwidth Product at $I_C=5.0\text{mA}$, $V_{CE}=10\text{V}$, $f=100\text{MHz}$	f_T	800	-	-	MHz
Small-Signal Current Gain at $I_C=5.0\text{mA}$, $V_{CE}=10\text{V}$, $f=1.0\text{KHz}$	h_{fe}	30	-	-	-
Noise Figure at $I_C=5.0\text{mA}$, $V_{CC}=12\text{V}$, $R_S=50\text{ohms}$, $f=200\text{MHz}$	NF	-	-	6	dB
Collector Base Capacitance at $V_{CB}=10\text{V}$, $f=1\text{MHz}$	C_{cb}	0.3	-	0.9	pF
Thermal Resistance, Junction to Ambient (Printed Circuit Board Mounting)	$R_{\theta JA}$	-	-	357	$^{\circ}\text{C/W}$

FUNCTIONAL TEST

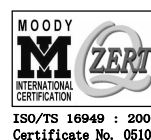
Amplifier Power Gain at $I_C=5.0\text{mA}$, $V_{CC}=12\text{V}$, $R_S=50\text{ohms}$, $f=200\text{MHz}$	G_{pe}	-	24	-	dB
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(Subsidiary of Semtech International Holdings Limited, acompany
listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 3/01/2004