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## MPSA64 Silicon PNP Transistor Darlington Amplifier

**Absolute Maximum Ratings:**

Collector–Emitter Voltage, $V_{CES}$ .....	-30V
Collector–Base Voltage, $V_{CBO}$ .....	-30V
Emitter–Base Voltage, $V_{EBO}$ .....	-10V
Continuous Collector Current, $I_C$ .....	-1.2A
Total Device Dissipation ( $T_A = 25^\circ\text{C}$ ), $P_D$ .....	625mW
Derate Above $25^\circ\text{C}$ .....	5mW/ $^\circ\text{C}$
Operating Junction Temperature Range, $T_J$ .....	$-55^\circ$ to $+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$
Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....	83.3 $^\circ\text{C}/\text{W}$
Thermal Resistance, Junction–to–Ambient, $R_{thJA}$ .....	200 $^\circ\text{C}/\text{W}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF Characteristics</b>						
Collector–Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C = -100\mu\text{A}, I_B = 0$	-30	-	-	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = -30\text{V}, I_E = 0$	-	-	-100	nA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = -10\text{V}, I_C = 0$	-	-	-100	nA
<b>ON Characteristics (Note 1)</b>						
DC Current Gain	$h_{FE}$	$V_{CE} = -5.0\text{V}, I_C = -10\text{mA}$	10,000	-	-	
		$V_{CE} = -5.0\text{V}, I_C = -100\text{mA}$	20,000	-	-	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -0.1\text{mA}$	-	-	-1.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}, V_{CE} = -5.0\text{V}$	-	-	-2.0	V
<b>Small Signal Characteristics</b>						
Current Gain Bandwidth Product	$f_t$	$I_C = -10\text{mA}, V_{CE} = -5.0\text{V}, f = 100\text{MHz}$	125	-	-	MHz

Note 1. Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

