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# 2SA1193(K)

Silicon PNP Epitaxial, Darlington

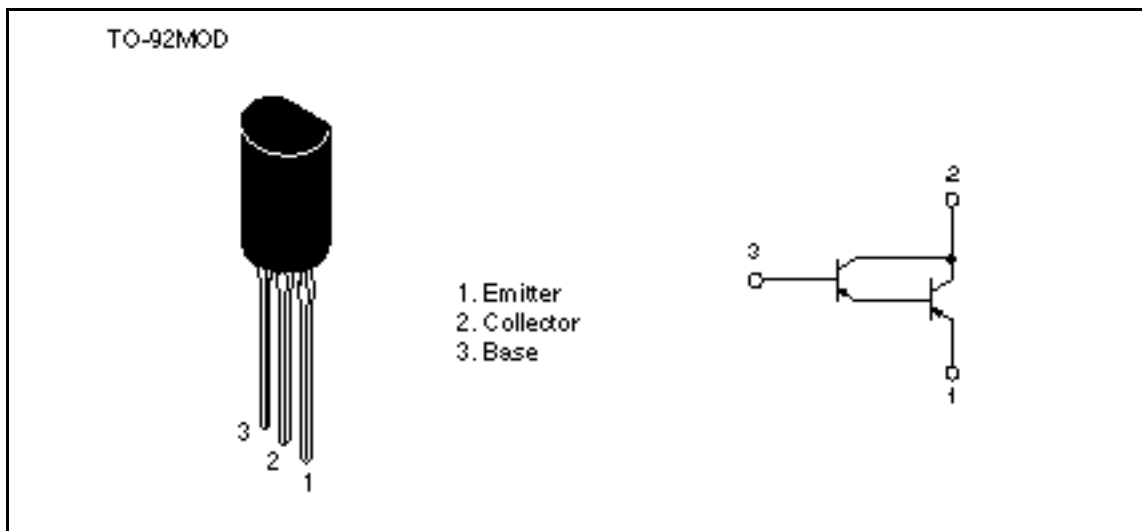
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## Application

High gain amplifier

## Outline



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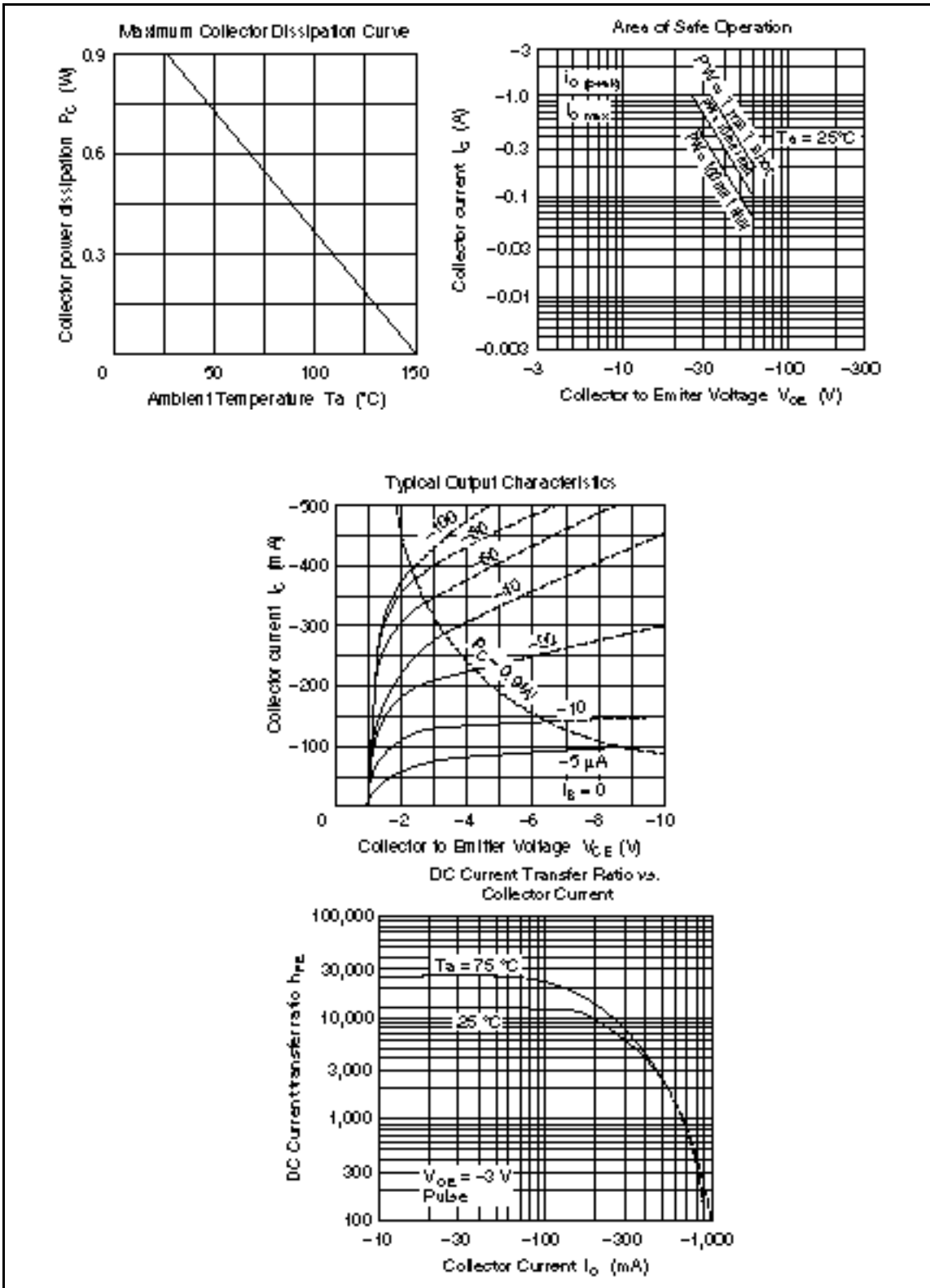
### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-60	V
Collector to emitter voltage	$V_{CEO}$	-60	V
Emitter to base voltage	$V_{EBO}$	-7	V
Collector current	$I_C$	-0.5	A
Collector peak current	$i_{C(\text{peak})}$	-1.0	A
Collector power dissipation	$P_C$	0.9	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{\text{stg}}$	-55 to +150	°C

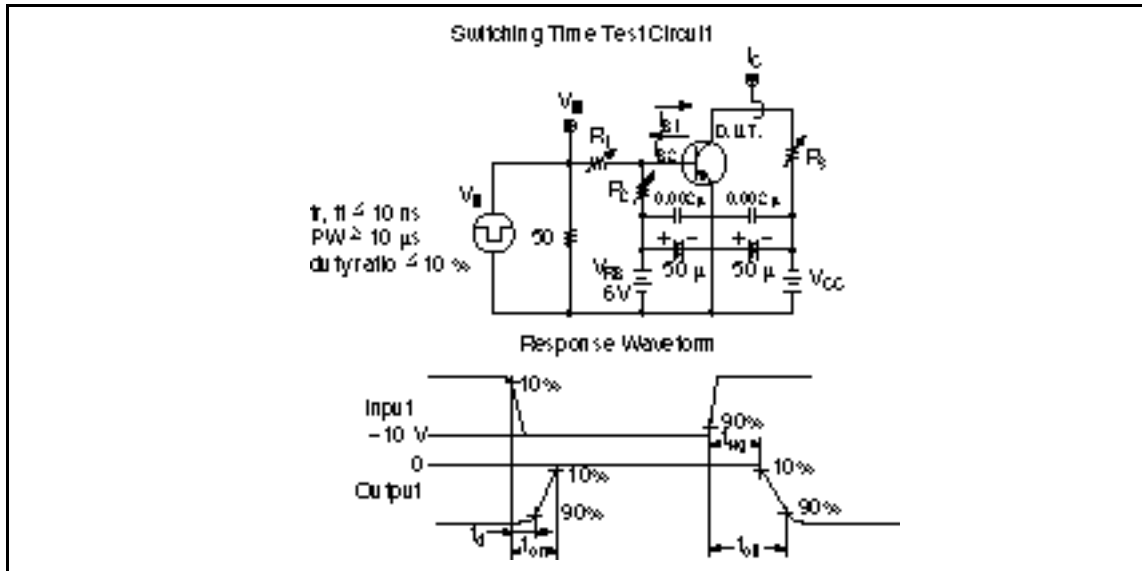
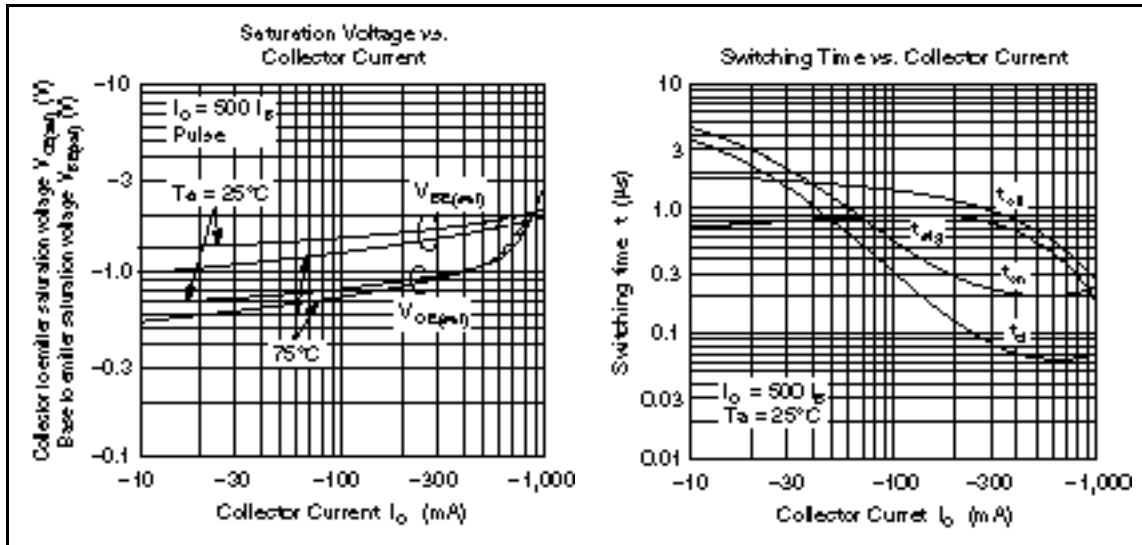
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-60	—	—	V	$I_C = -1 \text{ mA}, R_{BE} =$
Collector cutoff current	$I_{CBO}$	—	—	-1.0	$\mu\text{A}$	$V_{CB} = -60 \text{ V}, I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	-1.0	$\mu\text{A}$	$V_{EB} = -7 \text{ V}, I_C = 0$
DC current transfer ratio	$h_{FE}$	2000	—	—		$V_{CE} = -3 \text{ V}, I_C = -250 \text{ mA}^{*1}$
Collector to emitter saturation voltage	$V_{CE(\text{sat})}$	—	—	-1.5	V	$I_C = -250 \text{ mA}, I_B = -0.5 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(\text{sat})}$	—	—	-2.0	V	
Turn on time	$t_{\text{on}}$	—	0.3	—	$\mu\text{s}$	$I_C = -250 \text{ mA}$
Turn off time	$t_{\text{off}}$	—	0.9	—	$\mu\text{s}$	$I_{B1} = -I_{B2} = -0.5 \text{ mA}$

Note: 1. Pulse test



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