

SILICON POWER TRANSISTOR 2SA1129

PNP SILICON EPITAXIAL TRANSISTOR FOR LOW-FREQUENCY POWER AMPLIFIERS AND MID-SPEED SWITCHING

The 2SA1129 is a mold power transistor developed for mid-speed switching, and is ideal for use as a ramp driver.

ORDERING INFORMATION

Part No.	Package
2SA1129	TO-220AB

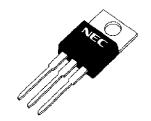
FEATURES

- Large current capacity with small package: Ic(DC) = -7.0 A
- Low collector saturation voltage: $V_{CE(sat)} = -0.3 \text{ V MAX}$. @Ic = -3.0 A, IB = -0.1 A
- Complementary transistor: 2SC2654

ABSOLUTE MAXIMUM RATINGS (TA = 25°C)

Parameter	Symbol	Conditions	Ratings	Unit
Collector to base voltage	Vсво		-30	V
Collector to emitter voltage	Vceo		-30	V
Emitter to base voltage	VEBO		-7.0	V
Collector current (DC)	Ic(DC)		-7.0	Α
Collector current (pulse)	IC(pulse)	PW \leq 300 μ s, duty cycle \leq 10%	-15	Α
Base current (DC)	I _{B(DC)}		-3.5	Α
Total power dissipation	Рт	Tc = 25°C	40	W
		T _A = 25°C	1.5	W
Junction temperature	Tj		150	°C
Storage temperature	T _{stg}		-55 to +150	°C

(TO-220AB)



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ELECTRICAL CHARACTERISTICS (TA = 25°C)

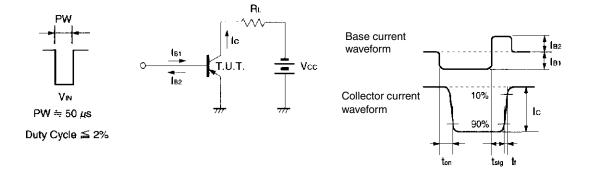
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	Ісво	$V_{CB} = -30 \text{ V}, I_E = 0 \text{ A}$			-10	μΑ
Emitter cutoff current	ІЕВО	$V_{EB} = -5.0 \text{ V}, \text{ Ic} = 0 \text{ A}$			-10	μΑ
DC current gain	h _{FE1}	$V_{CE} = -1.0 \text{ V}, \text{ Ic} = -3.0 \text{ A}^{Note}$	40		200	
DC current gain	h _{FE2}	$V_{CE} = -1.0 \text{ V}, \text{ Ic} = -5.0 \text{ A}^{Note}$	20			
Collector saturation voltage	V _{CE(sat)1}	$I_{C} = -3.0 \text{ A}, I_{B} = -0.1 \text{ A}^{Note}$			-0.3	V
Collector saturation voltage	V _{CE(sat)2}	$I_{C} = -5.0 \text{ A}, I_{B} = -0.5 \text{ A}^{Note}$			-0.6	V
Base saturation voltage	V _{BE(sat)1}	$I_{C} = -3.0 \text{ A}, I_{B} = -0.1 \text{ A}^{Note}$			-1.5	V
Base saturation voltage	V _{BE(sat)2}	$I_{C} = -5.0 \text{ A}, I_{B} = -0.5 \text{ A}^{Note}$			-2.0	V
Turn-on time	ton	$Ic = -5.0 \text{ A}, R_L = 4.0 \Omega,$			1.0	μs
Storage time	tstg	$I_{B1} = -I_{B2} = -0.5 \text{ A}, \text{ Vcc} \cong -20 \text{ V}$			2.5	μs
Fall time	tf	PW = 50 μ s, duty cycle = 2%			1.0	μs

Note Pulse test PW \leq 350 μ s, duty cycle \leq 2%

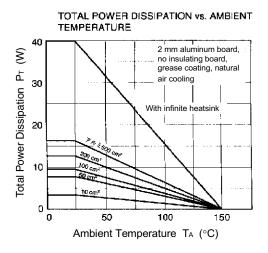
hfe CLASSIFICATION

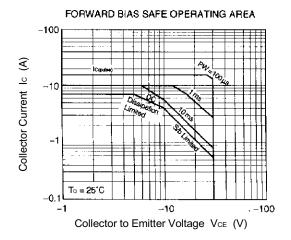
Marking	М	L	K
h _{FE1}	40 to 80	60 to 120	100 to 200

SWITCHING TIME (ton, tstg, tf) TEST CIRCUIT

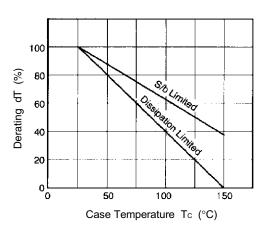


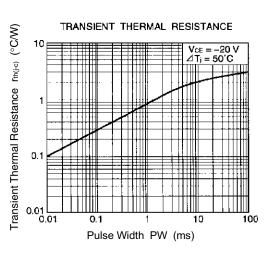
TYPICAL CHARACTERISTICS (TA = 25°C)

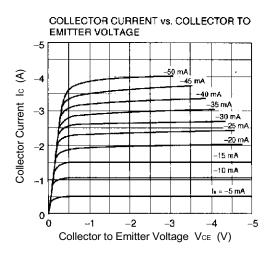




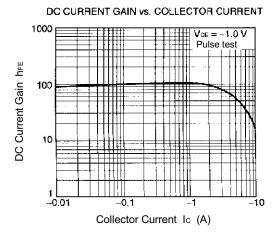
DERATING CURVE OF SAFE OPERATING AREA

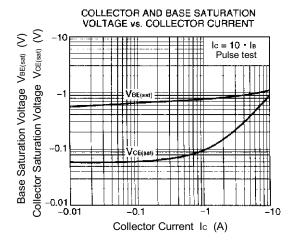






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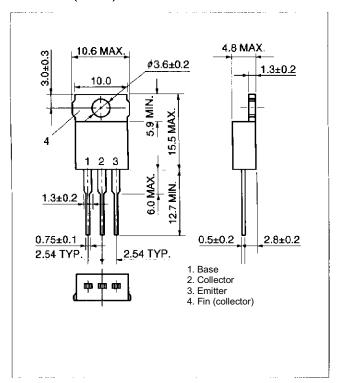






PACKAGE DRAWING (UNIT: mm)

TO-220AB (MP-25)



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