

SILICON TRANSISTOR 2SD1164-Z

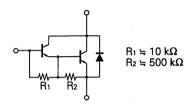
NPN SILICON EPITAXIAL TRANSISTOR MP-3

DESCRIPTION

2SD1164-Z is designed for Low Frequency Amplifier and Switching, especially in Hybrid Integrated Circuits.

FEATURES

• High hre = 2 000 to 30 000



QUALITY GRADE

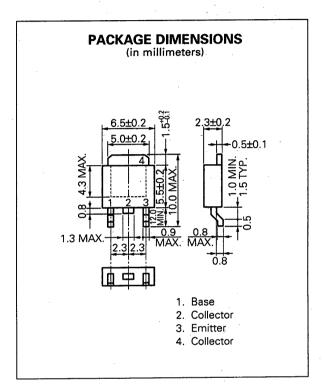
Standard

Please refer to "Quality grade on NEC Semiconductor Devices" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Collector to Base Voltage	Vсво	150	٧
Collector to Emitter Voltage	VCEO	60	V
Emitter to Base Voltage	VEBO	8.0	٧
Collector Current (DC)	lc.	2	Α
Collector Current (Pulse)*	lc	4	Α
Total Power Dissipation (Ta = 25 °C)**	Рт	2.0	W
Junction Temperature	T_{j}	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

- * PW ≤ 10 ms, Duty Cycle ≤ 50 %
- **When mounted on ceramic substrate of 7.5 cm² × 0.7 mm



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

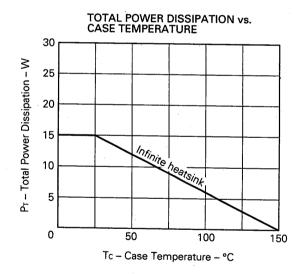
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	Ісво			10	μΑ	VcB = 60 V, IE = 0
Emitter Cutoff Current	Ієво			1.0	· mA:	VEB = 5.0 V, Ic = 0
DC Current Gain	h _{FE1} *	1 000	-			Vce = 2.0 V, Ic = 0.5 A
DC Current Gain	hFE2*	2 000		30 000		Vce = 2.0 V, lc = 1.0 A
Collector Saturation Voltage	V _{CE(sat)} *			1.5	V	Ic = 1.0 A, Is = 1.0 mA
Base Saturation Voltage	V _{BE(sat)} *			2.0	V	Ic = 1.0 A, I _B = 1.0 mA
Turn-on Time	ton		0.5		μs	
Storage Time	tstg		1.0		μs	Ic = 1.0 A, IB1 = -IB2 = 1.0 mA
Fall Time	t _f		1.0		μs	Vcc ≒ 50 V, RL = 50 Ω

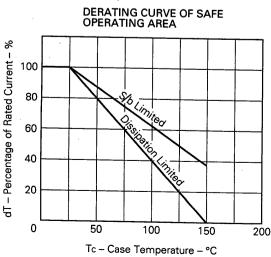
^{*}Pulsed: PW \leq 350 μ s, Duty Cycle \leq 2 %

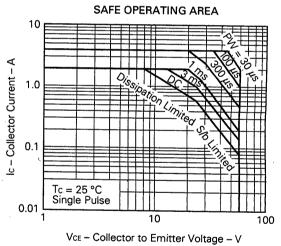
hee Classification

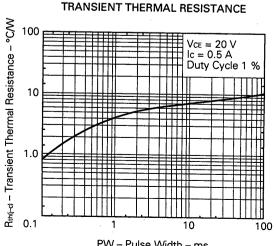
MARKING	M	L	к
hFE2	2 000 to 5 000	4 000 to 10 000	8 000 to 30 000

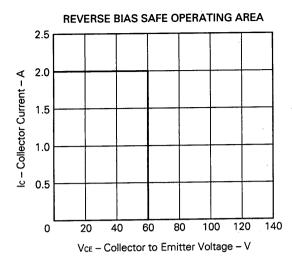
TYPICAL CHARACTERISTICS (Ta = 25 °C)

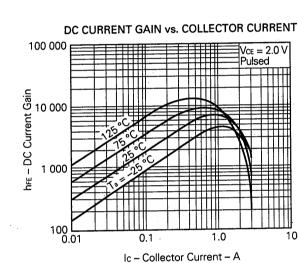


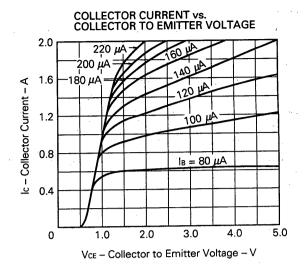


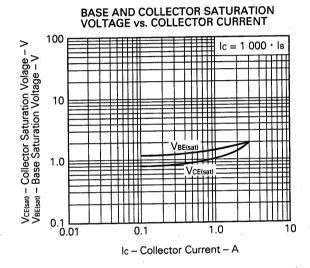




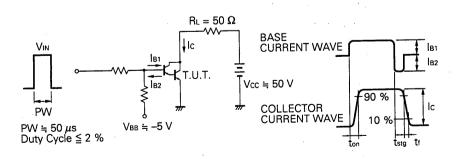








SWITCHING TIME (ton, tstg, tf) TEST CIRCUIT



Reference

Application note name	No.
Quality control of NEC semiconductors devices.	TEI-1202
Quality control guide of semiconductors devices.	MEI-1202
Assembly manual of semiconductors devices.	IEI-1207
Design of Push-Pull Type Switching Regulators (Basic)	TEB-1002
Design oif Push-Pull Type Switching Regulators (Applications)	TEB-1003
Optimum Base Drive Conditions of Switching Power Transistors	TEB-1014

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Application examples recommended by NEC Corporation.

Standard: Computer, Office equipment, Communication equipment, Test and Measurement equipment, Machine tools, Industrial robots, Audio and Visual equipment, Other consumer products, etc.

Special: Automotive and Transportation equipment, Traffic control systems, Antidisaster systems, Anticrime systems, etc.

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