SILICON POWER TRANSISTOR **2SD1164-Z**

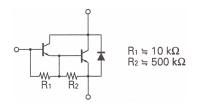
NPN SILICON EPITAXIAL TRANSISTOR

DESCRIPTION

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

FEATURES

• High hFE = 2000 to 30000



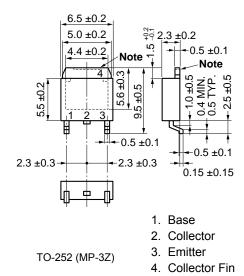
ABSOLUTE MAXIMUM RATINGS (TA = 25°C)

Collector to Base Voltage	Vсво	150	V
Collector to Emitter Voltage	VCEO	60	V
Base to Emitter Voltage	Vebo	8.0	V
Collector Current (DC)	IC(DC)	2	А
Collector Current (pulse) Note 1	C(pulse)	4	А
Total Power Dissipation $(T_A = 25^{\circ}C)^{Note 2}$	Рт	2.0	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	–55 to +150	°C

Notes 1. PW \leq 10 ms, Duty Cycle \leq 50%

2. When mounted on ceramic substrate of 7.5 $\text{cm}^2 \times 0.7 \text{ mm}$

<R> PACKAGE DRAWING (Unit: mm)



Note The depth of notch at the top of the fin is from 0 to 0.2 mm.

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The mark <R> shows major revised points.

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The revised points can be easily searched by copying an "<R>" in the PDF file and specifying it in the "Find what:" field.

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

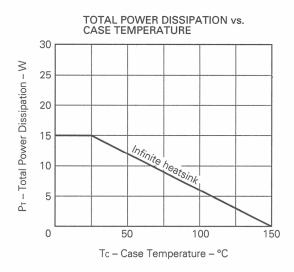
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	Ісво	× .		10	μA	Vcb = 60 V, IE = 0
Emitter Cutoff Current	Іево		· · · · ·	1.0	mA	VEB = 5.0 V, Ic = 0
DC Current Gain	hfe1*	1 000				Vce = 2.0 V, lc = 0.5 A
DC Current Gain	hfe2*	2 000	•	30 000		Vce = 2.0 V, lc = 1.0 A
Collector Saturation Voltage	VCE(sat)*			1.5	V	lc = 1.0 А, Iв = 1.0 mА
Base Saturation Voltage	VBE(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	$I_{c} = 1.0 \text{ A}, I_{B1} = -I_{B2} = 1.0 \text{ mA}$
Fall Time	tr		1.0		μs	Vcc ≒ 50 V, R∟ = 50 Ω

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

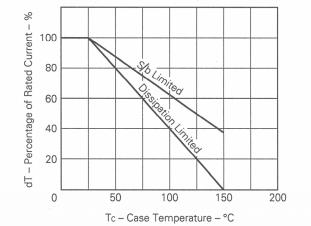
hFE Classification

MARKING	М	L	К
hfe2	2 000 to 5 000	4 000 to 10 000	8 000 to 30 000

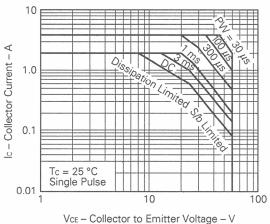
TYPICAL CHARACTERISTICS (Ta = 25 °C)



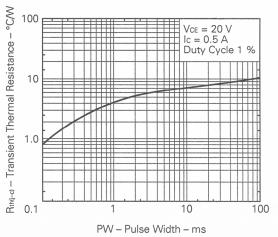


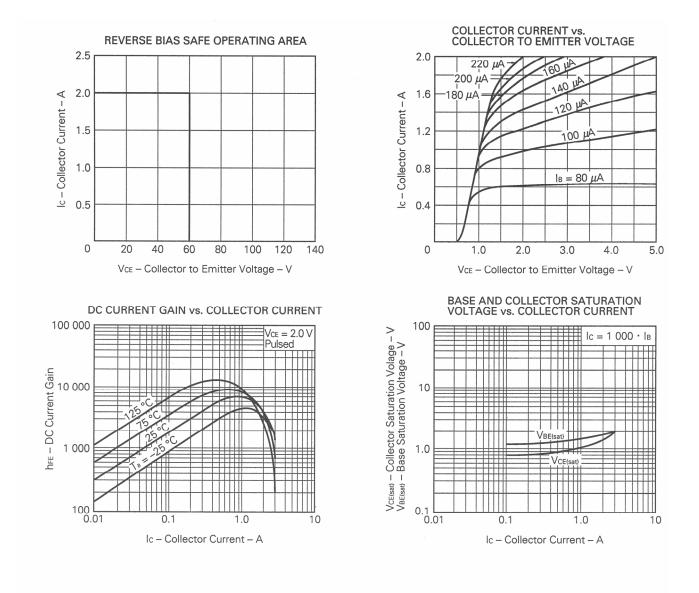


SAFE OPERATING AREA

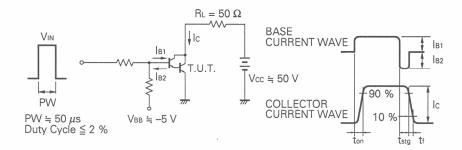


TRANSIENT THERMAL RESISTANCE





SWITCHING TIME (ton, tstg, tf) TEST CIRCUIT



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