

SILICON TRANSISTOR 2SC3631-Z

NPN SILICON TRIPLE DIFFUSED TRANSISTOR MP-3

DESCRIPTION

2SC3631-Z is designed for High Voltage Switching, especially in Hybrid Integrated Circuits.

FEATURES

- High Voltage VcEo = 400 V
- High Speed tr < 0.7 μs
- Complement to 2SA1412-Z

QUALITY GRADE

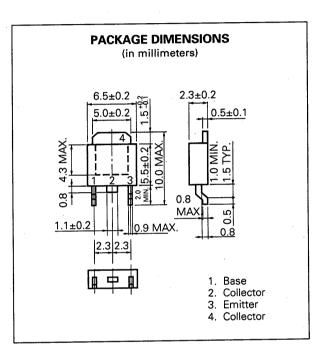
Standard

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	500	٧
Collector to Emitter Voltage	VCEO	400	٧
Emitter to Base Voltage	Vево	7	٧
Collector Current (DC)	lc	2.0	Α
Collector Current (Pulse)*	Ic	4.0	Α
Total Power Dissipation (Ta = 25 °C)**	Рт	2.0	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 to +150	°C

- * PW ≦ 10 ms, Duty Cycle ≦ 50 %
- ** When mounted on ceramic substrate of 7.5 cm $^2 \times 0.7$ mm



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

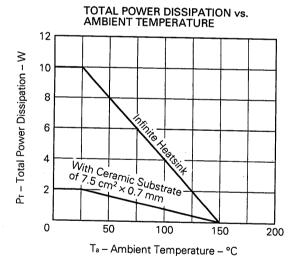
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	Ісво			10	μΑ	VCB = 400 V, IE = 0
Emitter Cutoff Current	lebo .			10	μΑ	VEB = 5.0 V, Ic = 0
DC Current Gain	hFE1*	40	60	120		VcE = 5.0 V, lc = 100 mA
DC Current Gain	hFE2*	6	14			VCE = 5.0 V, IC = 1.0 A
Collector Saturation Voltage	VCE(sat)*		0.35	1.0	V	lc = 1.0 A, lB = 0.2 A
Base Saturation Voltage	VBE(sat)*		1.0	1.5	· V	Ic = 1.0 A, IB = 0.2 A
Gain Bandwidth Product	fr		50		MHz	VcE = 10 V, IE = -100 mA
Output Capacitance	Соь		20		pF	VcB = 10 V, IE = 0, f = 1.0 MH
Turn-on Time	ton		0.03	0.5	μs	Ic = 1.0 A, R _L = 150 Ω
Storage Time	tstg		1.5	2.0	μs	IB1 = - B2 = 0.2 A
Fall Time	tf		0.1	0.7	μs	Vcc = 150 V

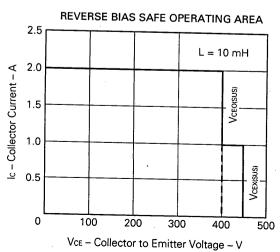
^{*} Pulsed: PW ≤ 350 µs, Duty Cycle ≤ 2 %

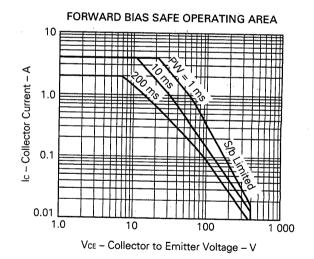
hre Classification

MARKING	L	К	
hfE	40 to 80	60 to 120	

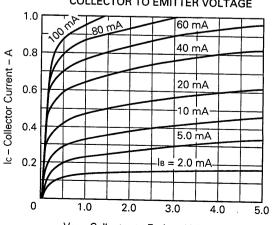
TYPICAL CHARACTERISTICS (Ta = 25 °C)



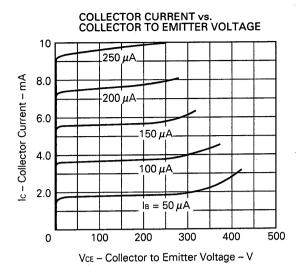


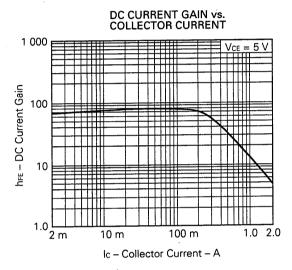


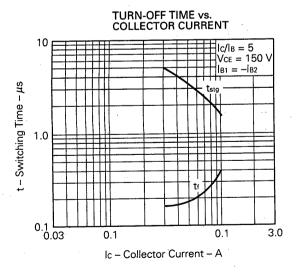


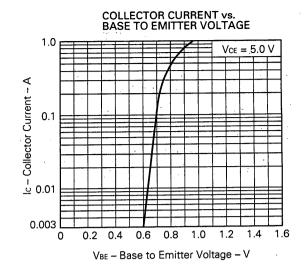


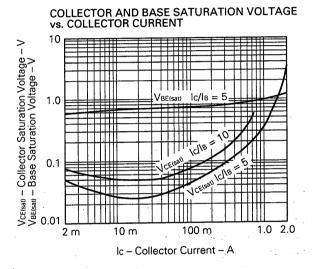
Vce - Collector to Emitter Voltage - V











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 of 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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