

SILICON TRANSISTOR 2SC3518-Z

NPN SILICON EPITAXIAL TRANSISTOR MP-3

DESCRIPTION

2SC3518-Z is designed for Audio Frequency Amplifier and Switching, especially in Hybrid Integrated Circuits.

FEATURES

- High DC Current Gain hre = 100 to 400
- Low VCE(sat): VCE(sat) = 0.09 V TYP.
- Complement to 2SA1385-Z

QUALITY GRADE

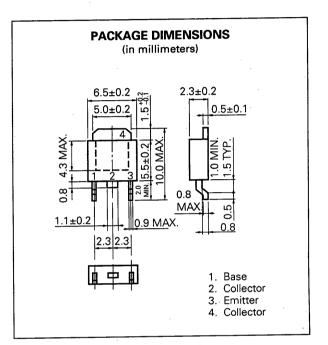
Standard

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	60	٧
Collector to Emitter Voltage	VCEO	60	٧
Emitter to Base Voltage	VEBO	7	٧
Collector Current (DC)	lc ·	5	Α
Collector Current (Pulse)*	Ic	7	Α
Total Power Dissipation (Ta = 25 °C)**	Рт	2.0	W
Junction Temperature	T_{j}	150	°C
Storage Temperature	Tstg	-55 to +150	°C

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





ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

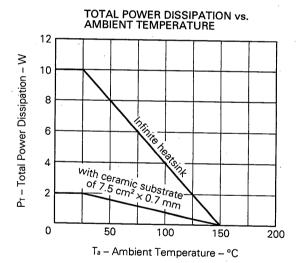
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	Ісво			10	μА	VcB = 50 V, IE = 0
Emitter Cutoff Current	IEBO			10	μА	VEB = 7.0 V, Ic = 0
DC Current Gain	hFE1*	100		400		VCE = 1.0 V, IC = 2.0 A
DC Current Gain	hFE2*	50				VcE = 1.0 V, lc = 5.0 A
Collector Saturation Voltage	VCE(sat)*			0.3	V	Ic = 2.0 A, IB = 0.2 A
Base Saturation Voltage	VBE(sat)*			1.2	v	Ic = 2.0 A, IB = 0.2 A
Gain Bandwidth Product	fr*		120		MHz	VcE = 10 V, IE = 500 mA
Turn-on Time	ton		0.07	1.0	μs	Ic = 2.0 A, Vcc = 10 V
Storage Time	tstg	-	0.8	2.5	μs	RL = 5.0 Ω
Fall Time	tr		0.12	1.0	μs	

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

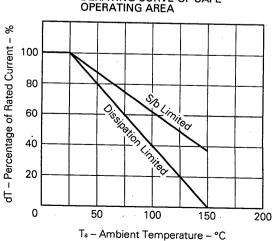
hre Classification

MARKING	М	L	К
hFE1	100 to 200	160 to 320	200 to 400

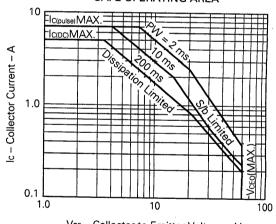
TYPICAL CHARACTERISTICS (Ta = 25 °C)



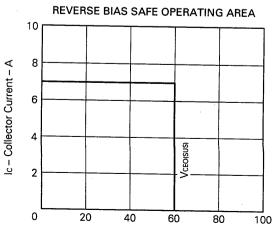




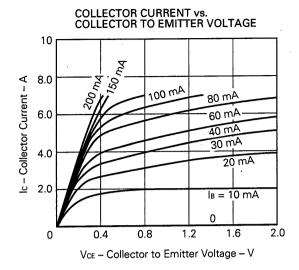
SAFE OPERATING AREA

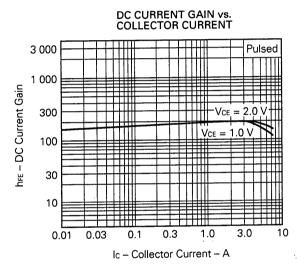


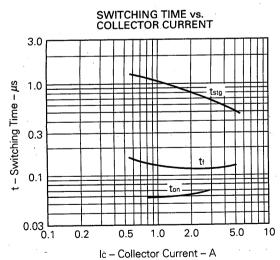
VcE - Collector to Emitter Voltage - V

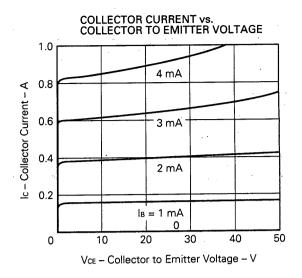


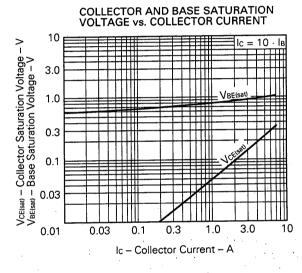
Vce - Collector to Emitter Voltage - V

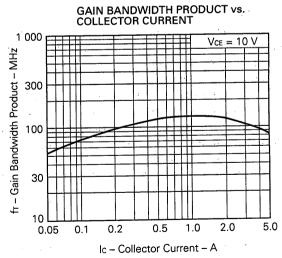












Reference

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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