

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 $h_{FE} = 100$ to 400
- Low $V_{CE(sat)}$: $V_{CE(sat)} = 0.09$ 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 ($T_a = 25^\circ\text{C}$)

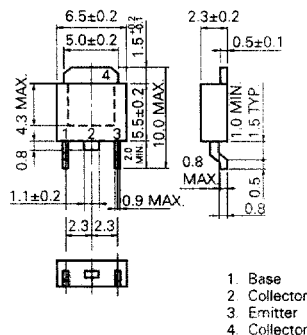
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	60	V
Emitter to Base Voltage	V_{EBO}	7	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)*	I_C	7	A
Total Power Dissipation ($T_a = 25^\circ\text{C}$)**	P_T	2.0	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10$ ms, Duty Cycle ≤ 50 %

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

PACKAGE DIMENSIONS

(in millimeters)



ELECTRICAL CHARACTERISTICS ($T_a = 25\text{ }^{\circ}\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			10	μA	$V_{CB} = 50\text{ V}$, $I_E = 0$
Emitter Cutoff Current	I_{EBO}			10	μA	$V_{EB} = 7.0\text{ V}$, $I_C = 0$
DC Current Gain	h_{FE1}^*	100		400		$V_{CE} = 1.0\text{ V}$, $I_C = 2.0\text{ A}$
DC Current Gain	h_{FE2}^*	50				$V_{CE} = 1.0\text{ V}$, $I_C = 5.0\text{ A}$
Collector Saturation Voltage	$V_{CE(sat)}^*$			0.3	V	$I_C = 2.0\text{ A}$, $I_E = 0.2\text{ A}$
Base Saturation Voltage	$V_{BE(sat)}^*$			1.2	V	$I_C = 2.0\text{ A}$, $I_E = 0.2\text{ A}$
Gain Bandwidth Product	f_T^*		120		MHz	$V_{CE} = 10\text{ V}$, $I_E = 500\text{ mA}$
Turn-on Time	t_{on}		0.07	1.0	μs	$I_C = 2.0\text{ A}$, $V_{CC} = 10\text{ V}$ $R_L = 5.0\text{ }\Omega$ $I_{B1} = -I_{B2} = 0.2\text{ A}$
Storage Time	t_{stg}		0.8	2.5	μs	
Fall Time	t_f		0.12	1.0	μs	

* Pulsed: $PW \leq 350\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$

h_{FE} Classification

MARKING	M	L	K
h_{FE1}	100 to 200	160 to 320	200 to 400

TYPICAL CHARACTERISTICS ($T_a = 25\text{ }^{\circ}\text{C}$)

