

NEC**SILICON TRANSISTOR**
2SA1400-Z**PNP SILICON TRIPLE DIFFUSED TRANSISTOR**
MP-3**DESCRIPTION**

2SA1400-Z is designed for High Voltage Switching, especially in Hybrid Integrated Circuits.

FEATURES

- High Voltage : $V_{CE0} = -400$ V
- High Speed : $t_r \leq 1.0$ μ s
- Complement to 2SC3588-Z

QUALITY GRADE

Standard

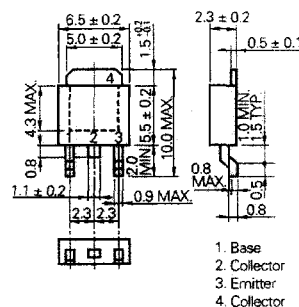
Please refer to "Quality grade on NEC Semiconductor Devices" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25$ °C)

Collector to Base Voltage	V_{CB0}	-400	V
Collector to Emitter Voltage	V_{CE0}	-400	V
Emitter to Base Voltage	V_{EB0}	-7	V
Collector Current (DC)	I_c	-0.5	A
Collector Current (Pulse)*	I_c	-1.0	A
Total Power Dissipation ($T_a = 25$ °C)**	P_T	2.0	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

* $PW \leq 300$ μ s, Duty Cycle ≤ 10 %

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

PACKAGE DIMENSIONS
(in millimeters)

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

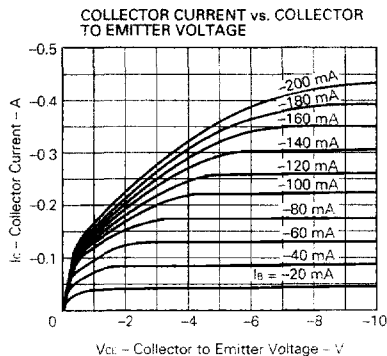
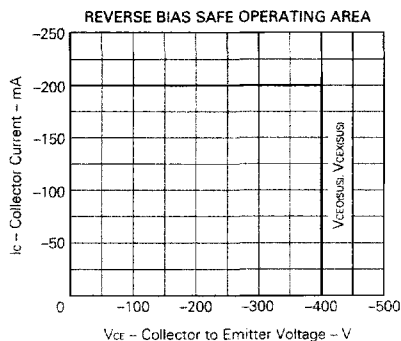
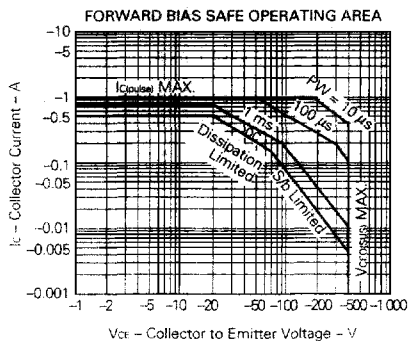
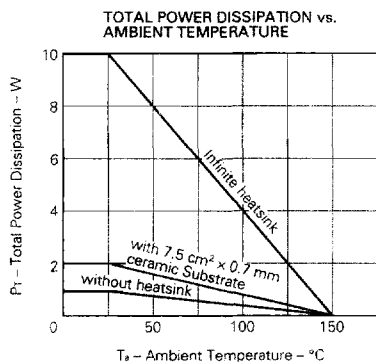
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			-100	μA	$V_{CE} = -400\text{ V}$, $I_E = 0$
Emitter Cutoff Current	I_{EBO}			-10	μA	$V_{EB} = -5.0\text{ V}$, $I_C = 0$
DC Current Gain	h_{FE}^*	30		200		$V_{CE} = -5.0\text{ V}$, $I_C = -50\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)}^*$			-1.0	V	$I_C = -100\text{ mA}$, $I_E = -10\text{ mA}$
Base Saturation Voltage	$V_{BE(sat)}^*$			-1.2	V	$I_C = -100\text{ mA}$, $I_E = -10\text{ mA}$
Turn-on Time	t_{on}		1.0		μs	$I_C = -100\text{ mA}$, $R_L = 1.5\text{ k}\Omega$
Storage Time	t_{stg}		5.0		μs	$I_{B1} = -I_{B2} = -10\text{ mA}$, $V_{CC} \approx -150\text{ V}$
Fall time	t_f		1.0		μs	$PW \leq 50\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$

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

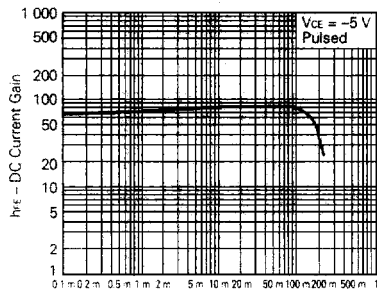
h_{FE} Classification

MARKING	N	M	L	K
h_{FE}	30 to 60	40 to 80	60 to 120	100 to 200

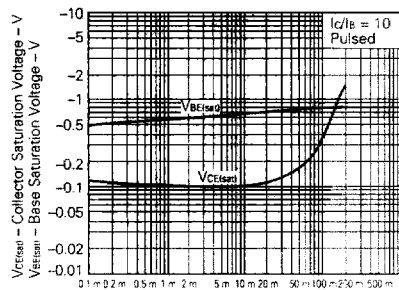
TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



DC CURRENT GAIN vs.
COLLECTOR CURRENT



BASE COLLECTOR SATURATION
VOLTAGE vs. COLLECTOR CURRENT



TURN ON TIME, STORAGE TIME AND
FALL TIME vs. COLLECTOR CURRENT

