

Phase-out/Discontinued

2SA1400-Z

PNP SILICON TRIPLE DIFFUSED TRANSISTOR

DESCRIPTION

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

FEATURES

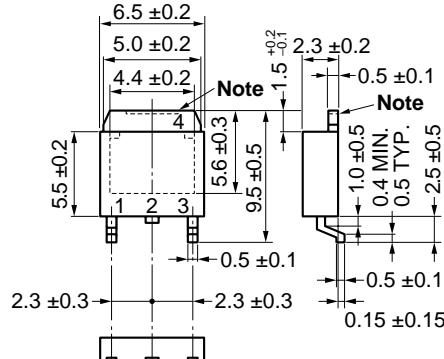
- High Voltage: $V_{CEO} = -400$ V
- High Speed: $t_r \leq 1.0 \mu\text{s}$
- Complement to 2SC3588-Z

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

Collector to base voltage	V_{CBO}	-400	V
Collector to emitter voltage	V_{CEO}	-400	V
Base to emitter voltage	V_{EBO}	-7	V
Collector current (DC)	$I_{C(\text{DC})}$	-0.5	A
Collector current (pulse) ^{Note 1}	$I_{C(\text{pulse})}$	-1.0	A
Total power dissipation ($T_A = 25^\circ\text{C}$) ^{Note 2}	P_T	2.0	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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PACKAGE DRAWING (Unit: mm)



1. Base
2. Collector
3. Emitter
4. Collector Fin

TO-252 (MP-3Z)

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

Notes 1. $PW \leq 300 \mu\text{s}$, Duty Cycle $\leq 10\%$

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

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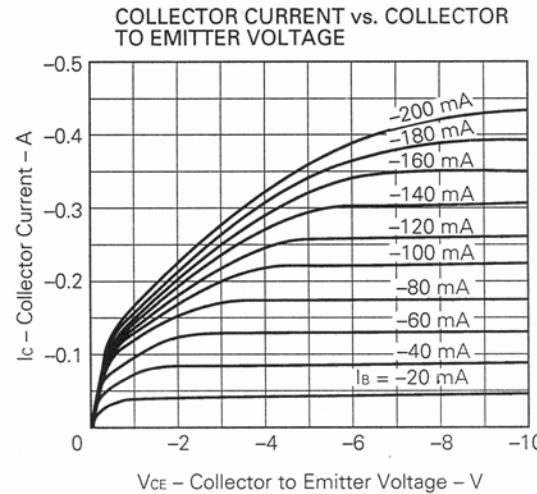
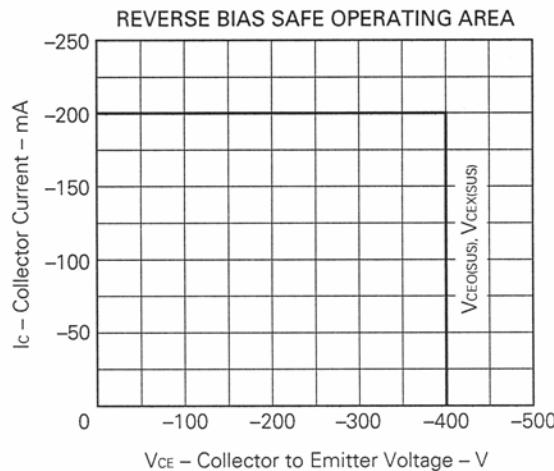
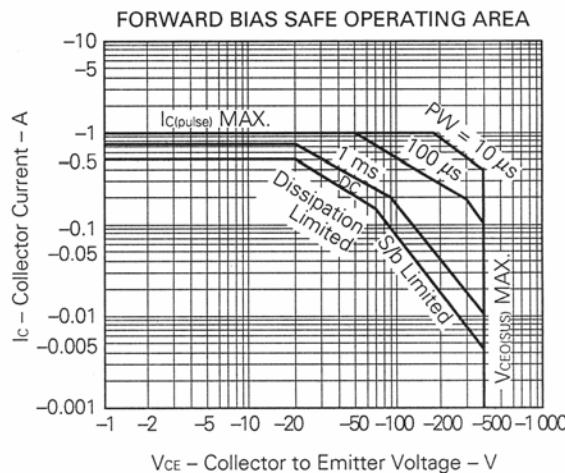
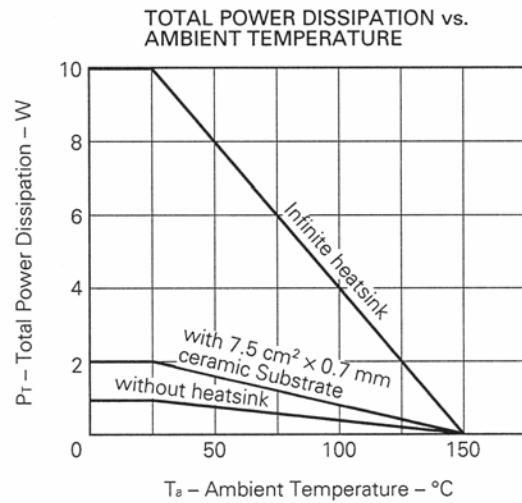
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

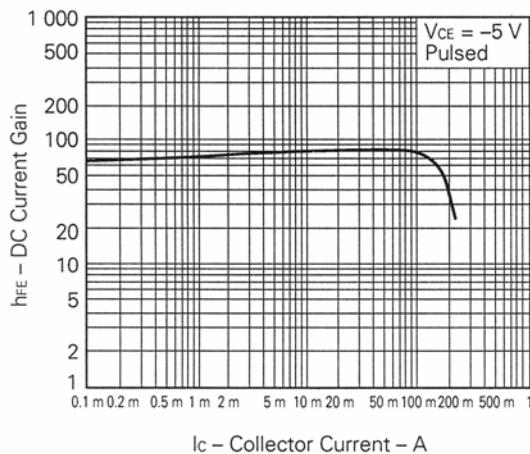
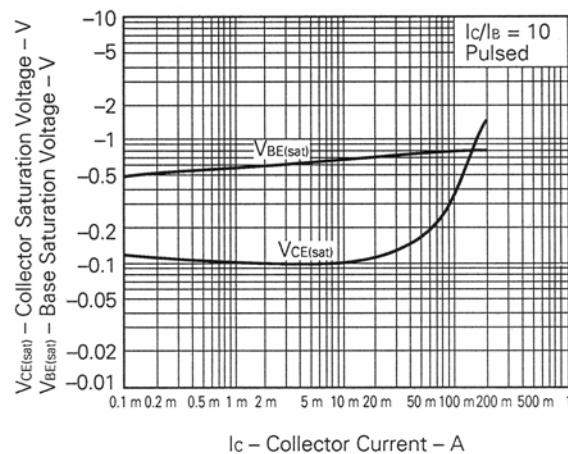
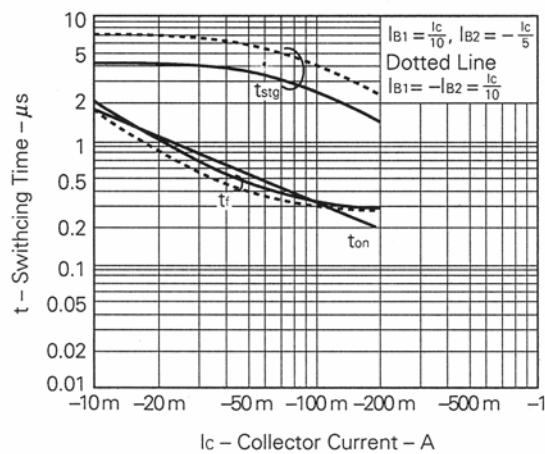
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			-100	μA	$V_{CB} = -400 V, I_E = 0$
Emitter Cutoff Current	I_{EBO}			-10	μA	$V_{EB} = -5.0 V, I_C = 0$
DC Current Gain	h_{FE}^*	30		200		$V_{CE} = -5.0 V, I_C = -50 mA$
Collector Saturation Voltage	$V_{CE(sat)}^*$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

* Pulsed: $PW \leq 350 \mu s$, 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 ($T_a = 25^\circ C$)

DC CURRENT GAIN vs.
COLLECTOR CURRENTBASE COLLECTOR SATURATION
VOLTAGE vs. COLLECTOR CURRENTTURN ON TIME, STORAGE TIME AND
FALL TIME vs. COLLECTOR CURRENT

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