



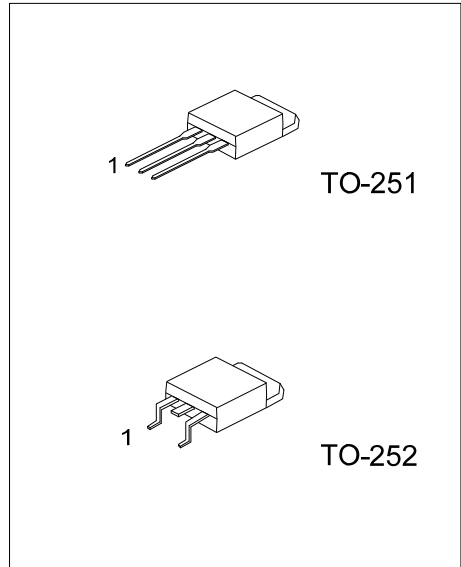
2SA1700

PNP EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE DRIVER APPLICATION

FEATURES

- * High breakdown voltage.
- * Excellent h_{FE} linearity.



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SA1700L-x-TM3-T	2SA1700G-x-TM3-T	TO-251	B	C	E	Tube
2SA1700L-x-TN3-R	2SA1700G-x-TN3-R	TO-252	B	C	E	Tape Reel
2SA1700L-x-TN3-T	2SA1700G-x-TN3-T	TO-252	B	C	E	Tube

Note: Pin Assignment: B: Base C: Collector E: Emitter

<p>2SA1700L-x-TM3-T</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TM3: TO-251, TN3: TO-252</p> <p>(3) x: refer to Classification of h_{FE}</p> <p>(4) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-400	V
Collector-Emitter Voltage	V_{CEO}	-400	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-200	mA
Collector Current (PULSE)	I_{CP}	-400	mA
Power Dissipation	P_D	1	W
		10 ($T_C=25^\circ\text{C}$)	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

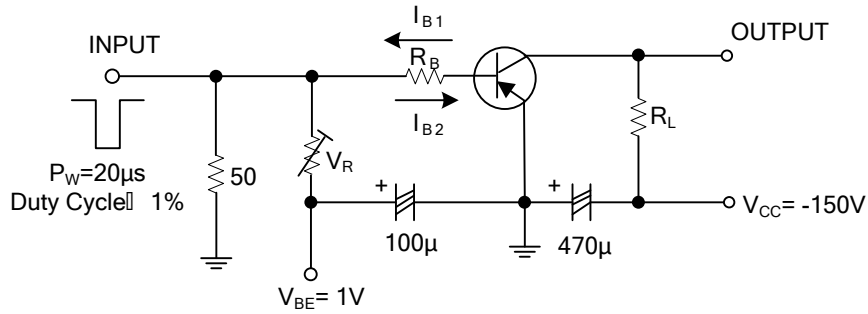
■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -10\mu\text{A}$, $I_E = 0$	-400			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -1\text{mA}$, $I_B = 0$, $R_{BE} = \infty$	-400			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -10\mu\text{A}$, $I_C = 0$	-5			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = -300\text{V}$, $I_E = 0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4\text{V}$, $I_C = 0$			-0.1	μA
DC Current Transfer Ratio	h_{FE}	$V_{CE} = -10\text{V}$, $I_C = -50\text{mA}$	60		200	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -50\text{mA}$, $I_B = -5\text{mA}$			-0.8	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -50\text{mA}$, $I_B = -5\text{mA}$			-1.0	V
Output Capacitance	C_{OB}	$V_{CB} = -30\text{V}$, $f = 1\text{MHz}$		5		pF
Reverse Transfer Capacitance	C_{RE}	$V_{CB} = -30\text{V}$, $f = 1\text{MHz}$		4		pF
Gain-Bandwidth Product	f_T	$V_{CE} = -30\text{V}$, $I_C = -10\text{mA}$		70		MHz
Turn-on Time	t_{ON}	See test circuit		0.25		μs
Turn-off Time	t_{OFF}	See test circuit		5		μs

■ CLASSIFICATION OF h_{FE}

RANK	D	E
RANGE	60-120	100-200

■ TEST CIRCUIT (Unit : (resistance : Ω , capacitance : F))



$$-10I_{B1} = 10I_{B2} = I_C = -50\text{mA}$$

$$R_L = 3\text{k}\Omega, R_B = 200\Omega \text{ at } I_C = -50\text{mA}$$

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