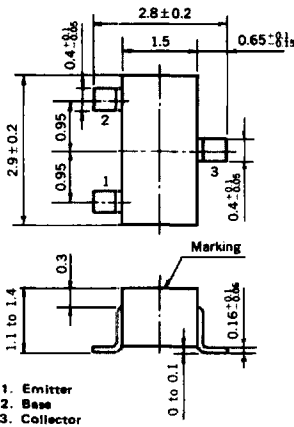


SILICON TRANSISTOR

FA1L3Z

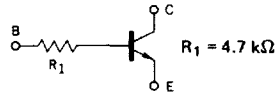
MEDIUM SPEED SWITCHING RESISTOR BUILT-IN TYPE NPN TRANSISTOR MINI MOLD

PACKAGE DIMENSIONS in millimeters



FEATURES

- Resistor Built-in TYPE



- Complementary to FN1L3Z

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents ($T_a = 25^\circ\text{C}$)

Collector to Base Voltage	V_{CB0}	60	V
Collector to Emitter Voltage	V_{CE0}	50	V
Emitter to Base Voltage	V_{EB0}	5	V
Collector Current (DC)	I_C	100	mA
Collector Current (Pulse)	I_C	200	mA

Maximum Power Dissipation

Total Power Dissipation at 25°C Ambient Temperature	P_T	200	mW
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Maximum Temperatures

Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

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

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CB0}			100	nA	$V_{CB} = 50\text{ V}, I_E = 0$
DC Current Gain	h_{FE1}^*	135	450	600		$V_{CE} = 5.0\text{ V}, I_C = 5.0\text{ mA}$
DC Current Gain	h_{FE2}^*	100	380			$V_{CE} = 5.0\text{ V}, I_C = 50\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)}^*$		0.04	0.2	V	$I_C = 5.0\text{ mA}, I_B = 0.25\text{ mA}$
Low-Level Input Voltage	V_{IL}^*		0.54	0.5	V	$V_{CE} = 5.0\text{ V}, I_C = 100\text{ }\mu\text{A}$
High-Level Input Voltage	V_{IH}^*	1.2	0.71		V	$V_{CE} = 0.2\text{ V}, I_C = 5.0\text{ mA}$
Input Resistor	R_1	3.29	4.7	6.11	k Ω	
Turn-on Time	t_{on}		0.03	0.2	μs	$V_{CC} = 5\text{ V}, V_{in} = 5\text{ V}$ $R_L = 1\text{ k}\Omega$ $PW = 2\text{ }\mu\text{s}, \text{Duty Cycle} \leq 2\%$
Storage Time	t_{stg}		3.2	5.0	μs	
Turn-off Time	t_{off}		3.4	6.0	μs	

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

h_{FE} Classification

Marking	L36	L37	L38
h_{FE1}	135 to 270	200 to 400	300 to 600

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

