

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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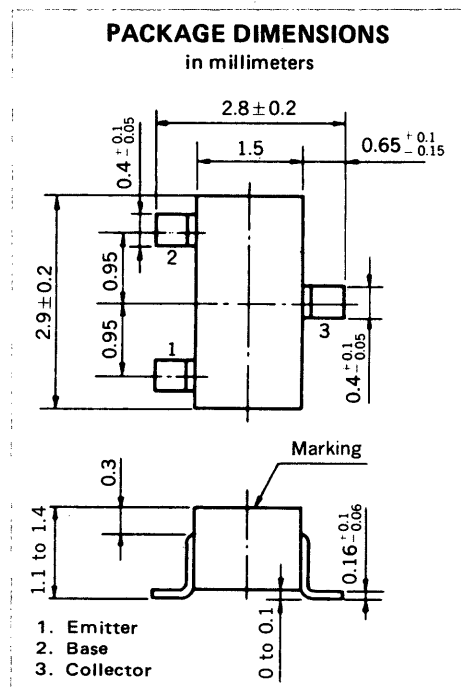
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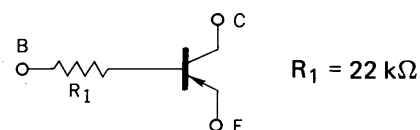
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MEDIUM SPEED SWITCHING RESISTOR BUILT-IN TYPE PNP TRANSISTOR MINI MOLD

**FEATURES**

- Resistor Built-in TYPE



- Complementary to FA1F4Z

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

Collector to Base Voltage	V_{CB0}	-60	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-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	$^\circ\text{C}$
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Storage Temperature Range

T_{stg}	-55 to +150	$^\circ\text{C}$
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ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			-100	nA	$V_{CB} = -50\text{ V}, I_E = 0$
DC Current Gain	h_{FE1}^*	135	280	600		$V_{CE} = -5.0\text{ V}, I_C = -5.0\text{ mA}$
DC Current Gain	h_{FE2}^*	100	200			$V_{CE} = -5.0\text{ V}, I_C = -50\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)}^*$		-0.06	-0.2	V	$I_C = -5.0\text{ mA}, I_B = -0.25\text{ mA}$
High-Level Input Voltage	V_{IH}^*		-0.57	-0.5	V	$V_{CE} = -5.0\text{ V}, I_C = -100\text{ }\mu\text{A}$
Low-Level Input Voltage	V_{IL}^*	-3.0	-1.1		V	$V_{CE} = -0.2\text{ V}, I_C = -5.0\text{ mA}$
Input Resistor	R_1	15.4	22.0	28.6	$\text{k}\Omega$	
Turn-on Time	t_{on}			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}			5.0	μs	
Turn-off Time	t_{off}			6.0	μs	

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

Marking	M64	M65	M66
h_{FE1}	135 to 270	200 to 400	300 to 600

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

