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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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XP0NG8A

Silicon PNP epitaxial planar type (Tr)
Silicon epitaxial planar type (SWD)

For digital circuits

■ Features

- Two elements incorporated into one package (Tr + SWD)
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts
- SMini type package allowing easy automatic insertion through tape packing and magazine packing

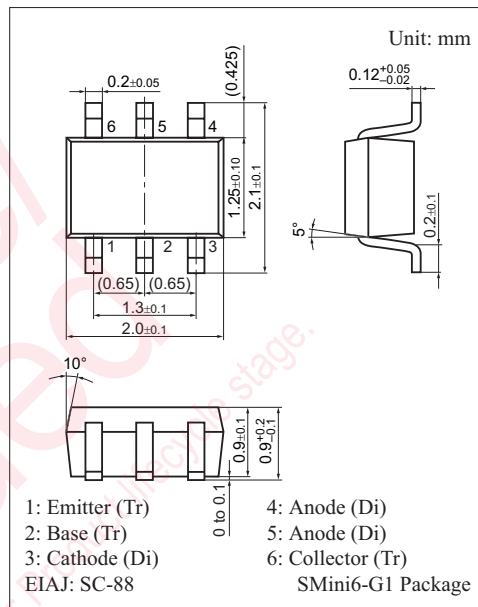
■ Basic Part Number

- UNR211L + MA3X152E

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

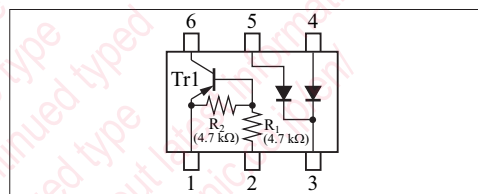
	Parameter	Symbol	Rating	Unit
Tr	Collector-base voltage (Emitter open)	V_{CBO}	-50	V
	Collector-emitter voltage (Base open)	V_{CEO}	-50	V
	Collector current	I_C	-100	mA
SWD	Forward current	I_F	100	mA
	Peak forward current	I_{FM}	225	mA
	Non-repetitive peak forward surge current *	I_{FSM}	500	mA
	Reverse voltage	V_R	80	V
	Maximum peak reverse voltage	V_{RM}	80	V
Overall	Total power dissipation	P_T	150	mW
	Junction temperature	T_j	150	$^\circ\text{C}$
	Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *: $t = 1\text{ s}$



Marking Symbol: 4D

Internal Connection



■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

• Tr

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = -10 \mu\text{A}, I_E = 0$	-50			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -2 \text{ mA}, I_B = 0$	-50			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -50 \text{ V}, I_E = 0$			-0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -50 \text{ V}, I_B = 0$			-0.5	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -6 \text{ V}, I_C = 0$			-2.0	mA
Forward current transfer ratio	h_{FE}	$V_{CE} = -10 \text{ V}, I_C = -5 \text{ mA}$	20			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10 \text{ mA}, I_B = -0.3 \text{ mA}$			-0.25	V
Output voltage high-level	V_{OH}	$V_{CC} = -5 \text{ V}, V_B = -0.5 \text{ V}, R_L = 1 \text{ k}\Omega$	-4.9			V
Output voltage low-level	V_{OL}	$V_{CC} = -5 \text{ V}, V_B = -2.5 \text{ V}, R_L = 1 \text{ k}\Omega$			-0.2	V
Input resistance	R_1		-30%	4.7	+30%	$\text{k}\Omega$
Resistance ratio	R_1 / R_2		0.8	1.0	1.2	—
Transition frequency	f_T	$V_{CB} = -10 \text{ V}, I_E = 1 \text{ mA}, f = 200 \text{ MHz}$		80		MHz

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

• SWD

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	$I_F = 100 \text{ mA}$			1.2	V
Reverse voltage	V_R	$I_R = 100 \mu\text{A}$	80			V
Reverse current	I_R	$V_R = 75 \text{ V}$			0.1	μA
Terminal capacitance	C_t	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$			2.0	pF
Reverse recovery time	t_{rr}	$I_F = 10 \text{ mA}, V_R = 6 \text{ V}, R_L = 100 \Omega,$ $I_{rr} = 0.1 I_R$			3.0	ns

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

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