



## UMY1N

Preliminary

DUAL TRANSISTOR

### DUAL TRANSISTOR

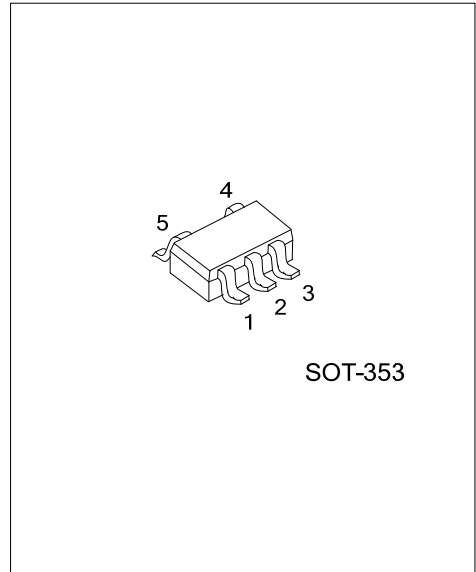
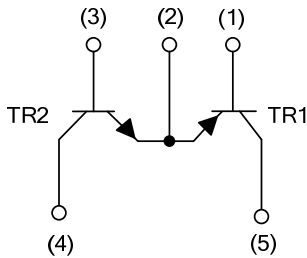
#### DESCRIPTION

The UTC **UMY1N** is a dual transistor, including a NPN and a PNP which have common emitters. it uses UTC's advanced technology to provide customers with high DC current gain, etc.

#### FEATURES

- \* PNP and NPN transistors have common emitters
- \* High DC current gain

#### EQUIVALENT CIRCUIT

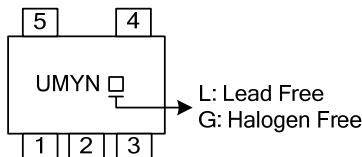


#### ORDERING INFORMATION

Order Number		Package	Pin Assignment					Packing
Lead Free	Halogen Free		1	2	3	4	5	
UMY1NL-AL5-R	UMY1NG-AL5-R	SOT-353	B1	E1, E2	B2	C2	C1	Tape Reel

<p>UMY1NL-AL5-R</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Lead Free</li> </ul>	<ul style="list-style-type: none"> <li>(1) R: Tape Reel</li> <li>(2) AL5: SOT-353</li> <li>(3) L: Lead Free, G: Halogen Free</li> </ul>
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#### MARKING INFORMATION



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS		UNIT
		TR1	TR2	
Collector-Base Voltage	$V_{CBO}$	-60	60	V
Collector-Emitter Voltage	$V_{CEO}$	-50	50	V
Emitter-Base Voltage	$V_{EBO}$	-6	7	V
Continuous Collector Current	$I_C$	-150	150	mA
Collector Power Dissipation	$P_C$	150		mW
Junction Temperature	$T_J$	150		$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~+150		$^{\circ}\text{C}$

Note: 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
<b>TR1</b>						
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=-50\mu\text{A}$ , $I_E=0$	-60			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-1\text{mA}$ , $I_B=0$	-50			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=-50\mu\text{A}$ , $I_C=0$	-6			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-60\text{V}$ , $I_E=0$			-0.1	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-6\text{V}$ , $I_C=0$			-0.1	$\mu\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-50\text{mA}$ , $I_B=-5\text{mA}$			-0.5	V
DC Current Gain	$h_{FE}$	$V_{CE}=-6\text{V}$ , $I_C=-1\text{mA}$	120		560	
Transition Frequency	$f_T$	$V_{CE}=-12\text{V}$ , $I_E=-2\text{mA}$ , $f=100\text{MHz}$		140		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-12\text{V}$ , $I_E=0$ , $f=1\text{MHz}$			5	pF
<b>TR2</b>						
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=50\mu\text{A}$ , $I_E=0$	60			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1\text{mA}$ , $I_B=0$	50			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=50\mu\text{A}$ , $I_C=0$	7			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=60\text{V}$ , $I_E=0$			0.1	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=7\text{V}$ , $I_C=0$			0.1	$\mu\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=50\text{mA}$ , $I_B=5\text{mA}$			0.4	V
DC Current Transfer Ratio	$h_{FE}$	$V_{CE}=6\text{V}$ , $I_C=1\text{mA}$	120		560	
Transition Frequency	$f_T$	$V_{CE}=12\text{V}$ , $I_E=2\text{mA}$ , $f=100\text{MHz}$		180		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=12\text{V}$ , $I_E=0$ , $f=1\text{MHz}$			3.5	pF

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