



UMY1N

Preliminary

DUAL TRANSISTOR

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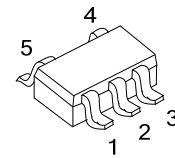
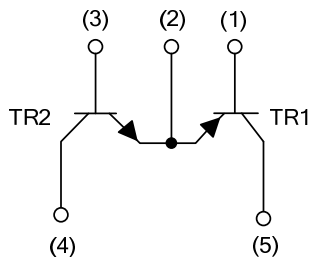
DESCRIPTION

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



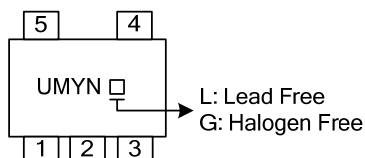
SOT-353

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

UMY1NL-AL5-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AL5: SOT-353
	(3)Lead Free	(3) L: Lead Free, G: Halogen Free

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
TR1						
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	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-6\text{V}$, $I_C=0$			-0.1	μA
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
TR2						
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	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=7\text{V}$, $I_C=0$			0.1	μA
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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