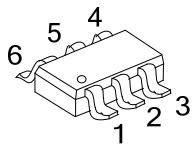
GENERAL PURPOSE TRANSISTOR



SOT-363

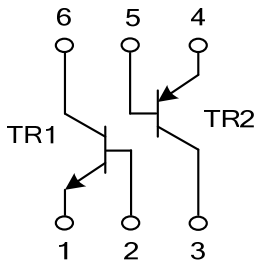
■ DESCRIPTION

The UTC **UMZ1N** is a dual transistor, including an NPN transistor and a PNP transistor. It uses UTC's advanced technology to provide customers with high DC current gain, etc.

■ FEATURES

* High DC current gain (NPN: h_{FE}>120 @ V_{CE}=6V, I_C=1mA; PNP: h_{FE}>120 @ V_{CE}=-6V,I_C=-1mA)

■ SYMBOL

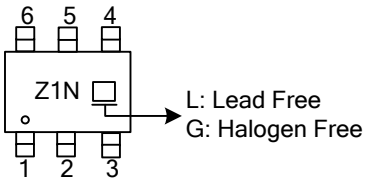


■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
UMZ1NL-AL6-R	UMZ1NG-AL6-R	SOT-363	E1	B1	C2	E2	B2	C1	Tape Reel

UMZ1NL-AL6-R (1)Packing Type (2)Package Type (3)Lead Free	(1) R: Tape Reel (2) AL6: SOT-363 (3) L: Lead Free, G: Halogen Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

PARAMETER	SYMBOL	LIMITS		UNIT
		TR1	TR2	
Collector-Base Voltage	V_{CBO}	60	-60	V
Collector-Emitter Voltage	V_{CEO}	50	-50	V
Emitter-Base Voltage	V_{EBO}	7	-6	V
Collector Current	I_C	0.15	-0.15	A
Collector Power Dissipation	Pc	0.15		W
Junction Temperature	T_J	150		°C
Storage Temperature	T_{STG}	-55~+150		°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°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
TR1						
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=50μA	60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA	50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=50μA	7			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=60V			0.1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=7V			0.1	μA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C/I_B=50mA/5mA			0.4	V
DC Current Transfer Ratio	h_{FE}	V_{CE}=6V, I_C=1mA	120		560	
Transition Frequency	f_T	V_{CE}=12V, I_E=-2mA, f=100MHz		180		MHz
Output Capacitance	Cob	V_{CB}=12V, I_E=0A, f=1MHz		2	3.5	pF
TR2						
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-50μA	-60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-1mA	-50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-50μA	-6			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-60V			-0.1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-6V			-0.1	μA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C/I_B=-50mA/-5mA			-0.5	V
DC Current Transfer Ratio	h_{FE}	V_{CE}=-6V, I_C=-1mA	120		560	
Transition Frequency	f_T	V_{CE}=-12V, I_E=2mA, f=100MHz		140		MHz
Output Capacitance	Cob	V_{CB}=-12V,I_E=0A, f=1MHz		4.0	5.0	pF