



UMB1

PNP SILICON TRANSISTOR

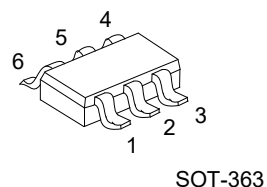
DUAL PNP DIGITAL TRANSISTOR (BUILT- IN BIAS RESISTORS)

DESCRIPTION

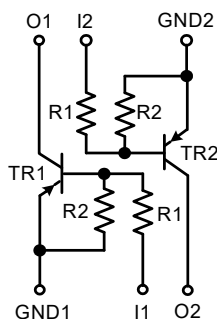
The UTC **UMB1** is an dual transistor; it uses UTC's advanced technology to provide the customers with low collector -emitter saturation voltage, etc.

FEATURES

- * PNP silicon transistor (Built-in resistor type)
- * 100 mA output current capability
- * Built-in bias resistors
- * Simplifies circuit design
- * Reduces component count
- * Reduces pick and place costs



EQUIVALENT CIRCUIT



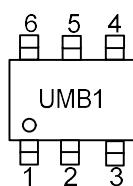
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
UMB1L-AL6-R	UMB1G-AL6-R	SOT-363	G1	I1	O2	G2	I2	O1	Tape Reel

Note: Pin Assignment: G: GND I: IN O: OUT

UMB1G-AL6-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AL6: SOT-363
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V _{CBO}	-50	V
Collector-Emitter Voltage	V _{CEO}	-50	V
Emitter-Base Voltage	V _{EBO}	-10	V
Input Voltage	V _{IN}	-40 ~ +10	V
Output Current	I _{OUT}	-100	mA
Power Dissipation	P _C	300	mW
Junction Temperature	T _J	+150	°C
Ambient Temperature	T _A	-55 ~ +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.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	417	°C/W

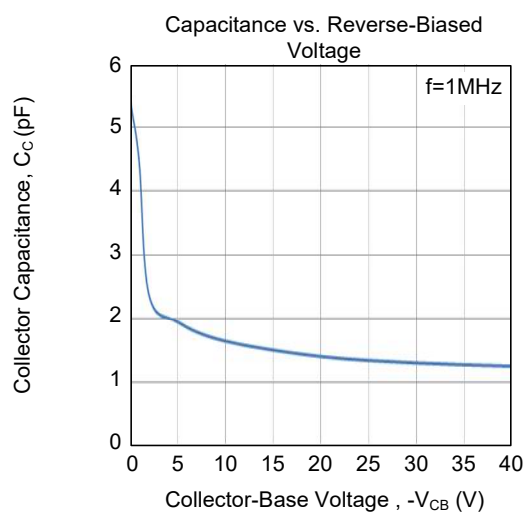
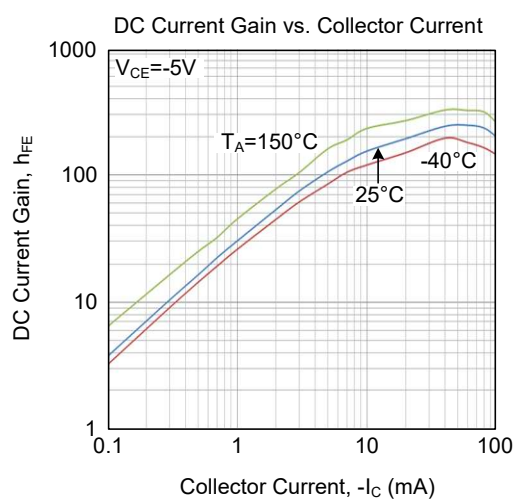
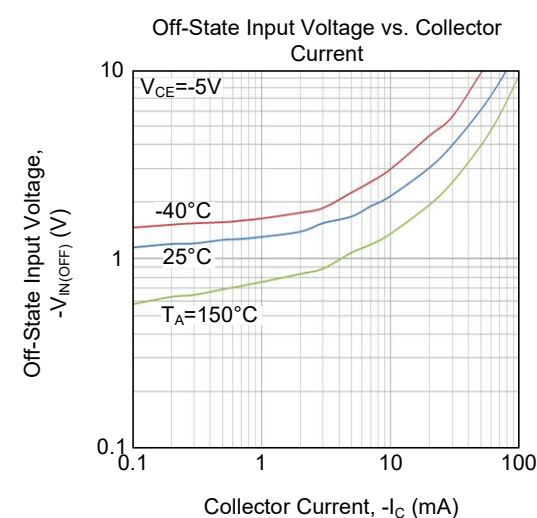
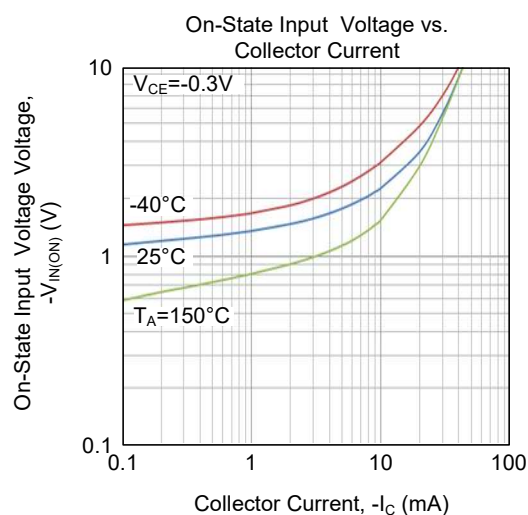
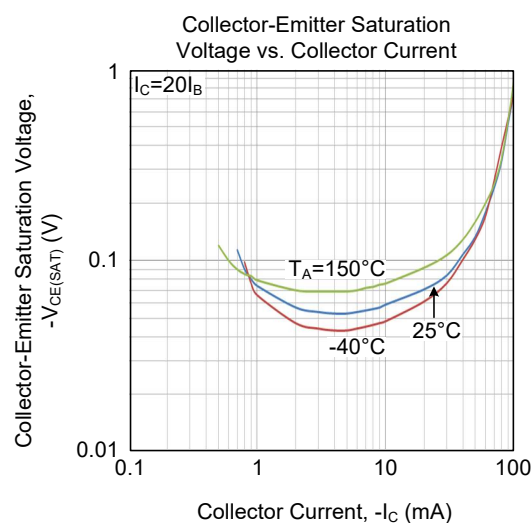
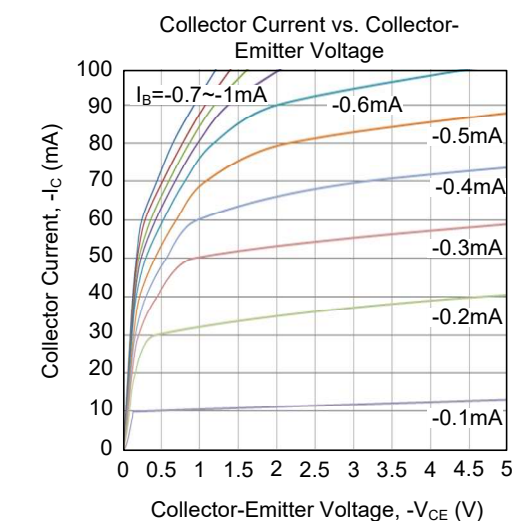
Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

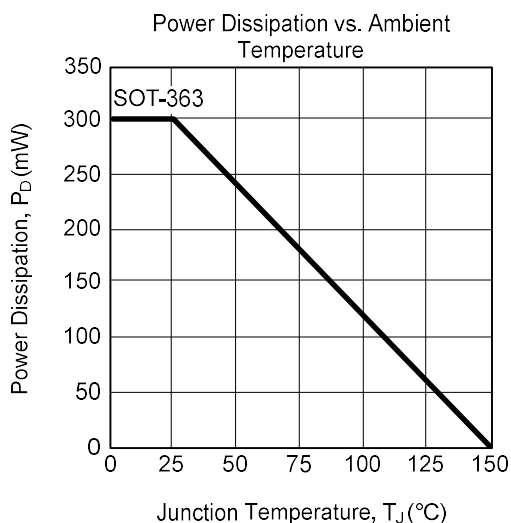
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0A	-50			V
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =-2mA, I _B =0A	-50			V
Collector-Base Cut-Off Current	I _{CBO}	V _{CB} =-50V, I _E =0A			-100	nA
Collector-Emitter Cut-Off Current	I _{CEO}	V _{CE} =-30V, I _B =0A			-100	nA
Emitter-Base Cut-Off Current	I _{EBO}	V _{EB} =-5V, I _C =0A			-180	μA
DC Current Gain	h _{FE}	V _{CE} =-5V, I _C =-5mA	60			
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =-10mA, I _B =-0.5mA			-150	mV
Off-State Input Voltage	V _{I(OFF)}	V _{CE} =-5V, I _C =-100μA			-0.8	V
On-State Input Voltage	V _{I(ON)}	V _{CE} =-0.3V, I _C =-5mA	-2.5			V
Bias Resistor 1 (Input)	R1		15.4	22	28.6	KΩ
Bias Resistor Ratio	R2/R1		0.8	1	1.2	
Collector Capacitance	C _C	V _{CB} =-10V, I _E =0A, f=1MHz			3	pF
Transition Frequency	f _T	V _{CE} =-10V, I _C =-5mA, f=100MHz (Note)		180		MHz

Note: Transition frequency of the device.

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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