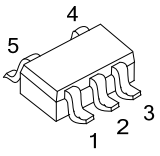
NPN EPITAXIAL TRANSISTOR



SOT-353

■ DESCRIPTION

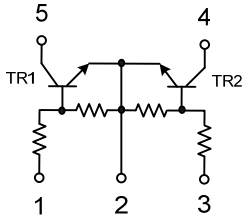
The UTC **UG9J** is an NPN epitaxial transistor; it uses UTC's advanced technology to provide the customers with low collector -emitter saturation voltage, etc.

The UTC **UG9J** is suitable for switching, inverter circuit and driver circuit applications.

■ FEATURES

* Low collector-emitter saturation voltage
* With built-in bias resistors
* Simplify circuit design

■ EQUIVALENT CIRCUIT



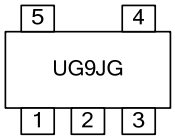
■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment					Packing
		1	2	3	4	5	
UG9JG-AL5-R	SOT-353	B1	E	B2	C2	C1	Tape Reel

Note: Pin Assignment: B: Base C: Collector E: Emitter

UG9JG-AL5-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AL5: SOT-353 (3) G: Halogen Free and Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (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
Collector Current	I_C	100	mA
Collector Power Dissipation (Total rating)	P_C	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~150	°C

Notes: 1. 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.
2. These characteristics apply to TR1 and TR2.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	I_{CBO}	V_{CB}=50V, I_E=0			100	nA
	I_{CEO}	V_{CE}=50V, I_B=0			500	nA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=10V, I_C=0	0.38		0.71	mA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=10mA	50			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=5mA, I_B=0.25mA		0.1	0.3	V
Input Voltage (ON)	$V_{IN(ON)}$	V_{CE}=0.2V, I_C=5mA	1.2		2.4	V
Input Voltage (OFF)	$V_{IN(OFF)}$	V_{CE}=5V, I_C=0.1mA	1.0		1.5	V
Transition Frequency	f_T	V_{CE}=10V, I_E=5mA		250		MHz
Input Resistor	R1		7	10	13	kΩ
Resistor Ratio	R1 / R2		0.9	1.0	1.1	

Note: These characteristics apply to TR1 and TR2.