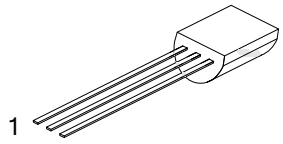
PROGRAMMABLE UNIJUNCTION TRANSISTOR



TO-92

■ DESCRIPTION

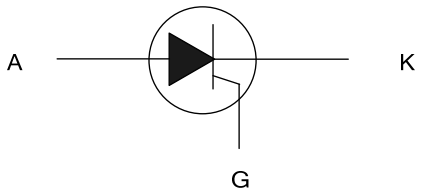
The UTC **2N6027** is a programmable unijunction transistor, it uses UTC's advanced technology to provide customers with low forward voltage, low gate to anode leakage current, low offset voltage and high peak output voltage, etc.

The UTC **2N6027** is suitable for timing, thyristor-trigger, oscillator and pulse circuits, etc.

■ FEATURES

* Low Forward Voltage
* Low Offset Voltage
* Low Gate to Anode Leakage Current
* High Peak Output Voltage

■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2N6027L-T92-B	2N6027G-T92-B	TO-92	A	G	K	Tape Box

Note: Pin Assignment: A: Anode, G: Gate, K: Cathode

2N6027L-T92-B (1)Packing Type	(1) B: Tape Box, R: Tape Reel, K: Bulk
(2)Package Type	(2) T92: TO-92
(3)Lead Free	(3) L: Lead Free, G: Halogen Free

■ ABSOLUTE MAXIMUM RATINGS (T_J=25°C, unless otherwise noted)

PARAMETER		SYMBOL	RATINGS	UNIT
* Power Dissipation		P_F	300	mW
	Derate Above 25°C	$1/\theta_{JA}$	4.0	mW/°C
* DC Forward Anode Current		I_T	150	mA
	Derate Above 25°C		2.67	mA/°C
* DC Gate Current		I_G	±50	mA
Repetitive Peak Forward Current	100μs Pulse Width, 1% Duty Cycle	I_{TRM}	1.0	Amps
	* 20 ms Pulse Width, 1% Duty Cycle		2.0	Amps
Non–Repetitive Peak Forward Current 10 ms Pulse Width		I_{TSM}	5.0	Amps
* Gate to Cathode Forward Voltage		V_{GKF}	40	Volts
* Gate to Cathode Reverse Voltage		V_{GKR}	-5.0	Volts
* Gate to Anode Reverse Voltage		V_{GAR}	40	Volts
* Anode to Cathode Voltage (Note 1)		V_{AK}	±40	Volts
Operating Junction Temperature Range		T_J	–50 to +100	°C
* Storage Temperature Range		T_{STG}	–55 to +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.

* Indicates JEDEC Registered Data.

1. Anode positive, R_{GA}=1000ohms
   Anode negative, R_{GA}=open.

■ THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ_{JC}	75	°C/W
Junction to Ambient	θ_{JA}	200	°C/W
Maximum Lead Temperature for Soldering Purposes (<1/16" from case, 10 secs max)	T_L	260	°C

■ ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Peak Current (Note 2)	I_P	V_S=10Vdc, R_G=1MΩ		1.25	2.0	μA
		V_S=10Vdc, R_G=10kohms		4.0	5.0	μA
Offset Voltage (Note 2)	V_T	V_S=10Vdc, R_G=1MΩ	0.2	0.70	1.6	Volts
Valley Current (Note 2)	I_V	V_S=10Vdc, R_G=1MΩ		18	50	μA
		V_S=10Vdc, R_G=10kohms	70	150		μA
		V_S=10Vdc, R_G=200ohms	1.5			mA
Gate to Anode Leakage Current (Note 2)	I_{GAO}	V_S=40Vdc, T_A=25°C, Cathode Open		1.0	10	nAdc
		V_S=40Vdc, T_A=75°C, Cathode Open)		3.0		nAdc
Gate to Cathode Leakage Current	I_{GKS}	V_S= 40Vdc, Anode to Cathode Shorted		5.0	50	nAdc
Forward Voltage (Note 1, 2)	V_F	I_F=50mA Peak		0.8	1.5	Volts
Peak Output Voltage (Note 2)	V_O	V_G=20Vdc, C_C=0.2μF	60	11		Volt
Pulse Voltage Rise Time	t_r	V_B=20Vdc, C_C=0.2μF		40	80	ns

Notes: 1. Pulse Test: Pulse Width≤300μsec, Duty Cycle≤2%.
2. Indicates JEDEC Registered Data.