



**PROGRAMMABLE
UNIUNCTION TRANSISTOR**

■ **DESCRIPTION**

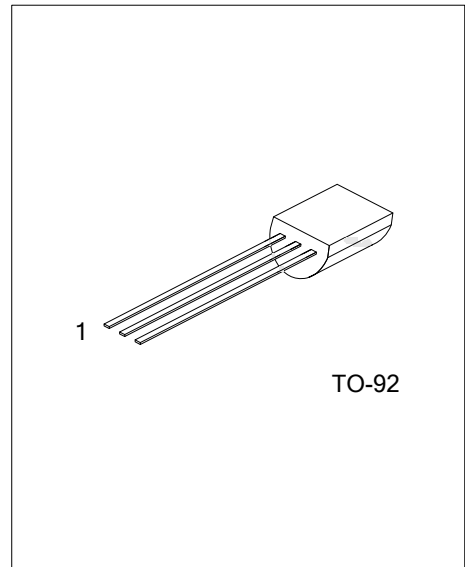
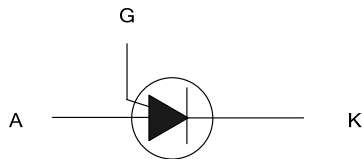
The UTC **2N6116** is a programmable unijunction transistor, it uses UTC's advanced technology to provide customers with low on-state voltage and high peak output voltage, etc.

The UTC **2N6116** is suitable for thyristor-trigger, pulse, oscillator and timing circuits, etc.

■ **FEATURES**

- * High peak output voltage
- * Low on-state voltage
- * Low offset voltage
- * Low gate to anode leakage current

■ **SYMBOL**



■ **ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2N6116L-T92-B	2N6116G-T92-B	TO-92	A	G	K	Tape Box
2N6116L-T92-K	2N6116G-T92-K	TO-92	A	G	K	Bulk

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

<p>2N6116L-T92-B</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Free</p>	<p>(1) B: Tape Box, K: Bulk</p> <p>(2) T92: TO-92</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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■ **MARKING INFORMATION**

PACKAGE	MARKING
TO-92	<p>UTC 2N6116□ □□□</p> <p>→ L: Lead Free → P: Halogen Free → Data Code</p> <p>1</p>

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Repetitive Peak Forward Current	100 μ s Pulse Width, 1% Duty Cycle	I_{TRM}	1	A
	20 μ s Pulse Width, 1% Duty Cycle		2	A
Non-Repetitive Peak Forward Current	10 μ s Pulse Width	I_{TSM}	5	A
DC Forward Anode Current		I_T	200	mA
Derate Above 25°C			2	mA/°C
DC Gate Current		I_G	± 20	mA
Gate to Cathode Forward Voltage		V_{GKF}	40	V
Gate to Cathode Reverse Voltage		V_{GKR}	5	V
Gate to Anode Reverse Voltage		V_{GAR}	40	V
Anode to Cathode Voltage		V_{AK}	± 40	V
Forward Power Dissipation	$T_A=25^\circ\text{C}$	P_F	250	mW
Derate Above 25°C		$1/\theta_{JA}$	2.5	mW/°C
Operating Junction Temperature		T_J	-65~+125	°C
Storage Junction Temperature		T_{STG}	-65~+200	°C

Notes: 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 noted.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Offset Voltage	V_T	$V_S=10\text{V}, R_G=1\text{M}\Omega$	0.2	0.70	1.6	V
		$V_S=10\text{V}, R_G=10\text{k}\Omega$	0.2	0.35	0.6	V
Gate to Anode Leakage Current	I_{GAO}	$V_S=40\text{V}, T_A=25^\circ\text{C}, \text{Cathode Open}$		1	5	nA
		$V_S=40\text{V}, T_A=75^\circ\text{C}, \text{Cathode Open}$		30	75	nA
Gate to Cathode Leakage Current	I_{GKS}	$V_S=40\text{V}, \text{Anode to Cathode Shorted}$		5	50	nA
Peak Current	I_P	$V_S=10\text{V}, R_G=1\text{M}\Omega$		1.25	2	μA
		$V_S=10\text{V}, R_G=10\text{k}\Omega$		4	5	μA
Valley Current	I_V	$V_S=10\text{V}, R_G=1\text{M}\Omega$		18	50	μA
		$V_S=10\text{V}, R_G=10\text{k}\Omega$	70	270		μA
Forward Voltage	V_F	$I_F=50\text{mA Peak}$		0.8	1.5	V
Peak Output Voltage	V_O	$V_B=20\text{V}, C_C=0.2\mu\text{F}$	6	16		V
Pulse Voltage Rise Time	t_R	$V_B=20\text{V}, C_C=0.2\mu\text{F}$		40	80	ns

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