



## UT2274

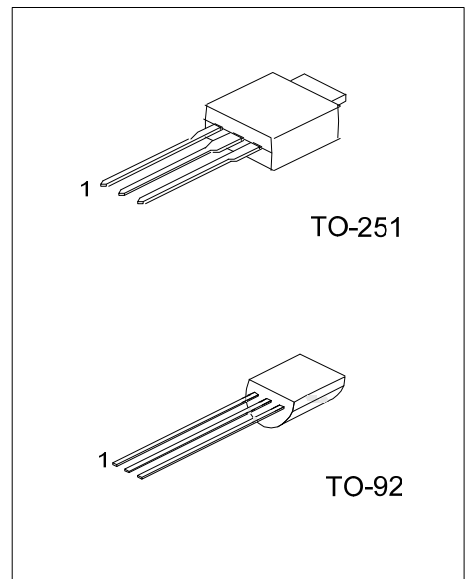
Preliminary

**NPN SILICON TRANSISTOR**

### SWITCHING REGULATOR APPLICATIONS

#### ■ FEATURES

- \* High breakdown voltage ( $V_{CBO} \geq 1400V$ ).
- \* Ultra high-speed switching.
- \* Wide SOA.



#### ■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UT2274L-T92-B	UT2274G-T92-B	TO-92	B	C	E	Tape Box
UT2274L-T92-K	UT2274G-T92-K	TO-92	B	C	E	Bulk
UT2274L-TM3-T	UT2274G-TM3-T	TO-251	B	C	E	Tube

<p>UT2274G-T92-B</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Halogen Free</p>	<p>(1) B: Tape Box, K: Bulk, T: Tube</p> <p>(2) T92: TO-92, TM3: TO-251</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$V_{CBO}$	1400	V
Collector-Emitter Voltage		$V_{CEO}$	720	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current	DC	$I_C$	1	A
	Pulse (Note 2)	$I_{CP}$	2	A
Collector Dissipation	TO-251	$P_C$	1	W
	TO-92		625	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.

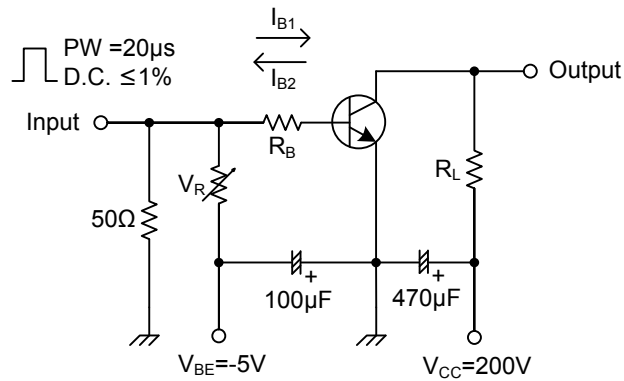
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2.  $PW \leq 300\mu s$ , duty cycle  $\leq 10\%$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=1\text{ mA}, I_E=0\text{ A}$	1400			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=5\text{ mA}, R_{BE}=\infty$	720			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=1\text{ mA}, I_C=0\text{ A}$	5			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=800\text{ V}, I_E=0\text{ A}$			10	$\mu\text{A}$
Collector Cut-off Current	$I_{CES}$	$V_{CB}=1400\text{ V}, R_{BE}=0\Omega$			1	mA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=4\text{ V}, I_C=0\text{ A}$			1	mA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=0.25\text{ A}, I_B=0.05\text{ A}$			1.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=0.5\text{ A}, I_B=0.1\text{ A}$			1.5	V
DC Current Gain	$h_{FE1}$	$V_{CE}=5\text{ V}, I_C=0.1\text{ A}$	15		35	
	$h_{FE2}$	$V_{CE}=5\text{ V}, I_C=0.5\text{ A}$	4			
Storage Time	$t_{STG}$	$V_{CC}=200\text{ V}, R_L=400\Omega$		1.5	3.0	$\mu\text{s}$
Fall Time	$t_F$	$I_C=0.5\text{ A}, I_{B1}=0.1\text{ A}, I_{B2}=-0.25\text{ A}$		0.25	0.4	$\mu\text{s}$

■ SWITCHING TIME TEST CIRCUIT



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