



## 2N3773/2N6099

## POWER TRANSISTOR

### COMPLEMENTARY SILICON TRANSISTORS

#### DESCRIPTION

The UTC **2N3773/2N6099** are complement silicon power transistors designed for high power audio, disk head positions and other linear applications. These device can be used in power switching circuits such as relay or solenoid drivers, DC to DC converters or inverts.

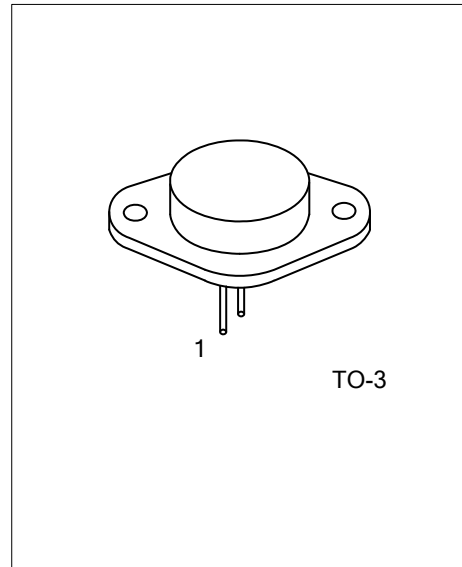
#### FEATURES

- \* Complement Characterized for linear operation
- \* High DC Current Gain and low saturation voltage  
 $\eta_{FE} > 15(8A, 4V)$   
 $V_{CE(SAT)} < 1.4V(I_C=8A, I_B=0.8A)$
- \* For Low Distortion Complementary Designs

#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2N3773L-T30-Y	2N3773G-T30-Y	TO-3	B	E	C	Tray
2N6099L-T30-Y	2N6099G-T30-Y	TO-3	B	E	C	Tray

<p>2N3773L-T30-Y</p> <p>(1) Packing Type (2) Package Type (3) Lead Free</p>	<p>(1) Y: Tray (2) T30: TO-3 (3) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING (T<sub>A</sub>=25°C, unless otherwise specified )

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	160	V
Collector-Emitter Voltage	V <sub>CEO</sub>	140	V
Emitter-Base Voltage	V <sub>EBO</sub>	7	V
Collector-Emitter Voltage	V <sub>CEX</sub>	160	V
Power Dissipation	T <sub>C</sub> =25°C	150	W
	Dertate Above 25°C	0.855	W/°C
Collector Current	Continuous	16	A
	Peak	30	A
Base Current	Continuous	4	A
	Peak	15	A
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

Note: 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. Pulse Test: P<sub>W</sub><=5ms, Duty Cycle<=10%

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ <sub>JC</sub>	1.17	°C/W

■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>OFF CHARACTERISTICS</b>						
Collector-Base Breakdown Voltage	BV <sub>CB0</sub>	I <sub>C</sub> =0.2A, I <sub>B</sub> =0	160			V
Collector-Emitter Sustaining Voltage	BV <sub>CEX</sub>	I <sub>C</sub> =0.1A, V <sub>BE(OFF)</sub> =1.5V, R <sub>BE</sub> =100Ω	160			V
Collector-Emitter Sustaining Voltage	BV <sub>CER</sub>	I <sub>C</sub> =0.1A, R <sub>BE</sub> =100Ω	150			V
Collector Cut-off Current	I <sub>CB0</sub>	V <sub>CB</sub> =140V, I <sub>E</sub> =0			2	mA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>BE</sub> =7V, I <sub>C</sub> =0			5	mA
Collector Cut-off Current	I <sub>CEX</sub>	V <sub>CE</sub> =140V, V <sub>BE(OFF)</sub> =1.5V		2		mA
		V <sub>CE</sub> =140V, V <sub>BE(OFF)</sub> =1.5V, T <sub>C</sub> =150°C		10		mA
<b>ON CHARACTERISTICS</b>						
DC Current Gain (Note)	h <sub>FE1</sub>	V <sub>CE</sub> =4V, I <sub>C</sub> =8A	15		60	
	h <sub>FE2</sub>	V <sub>CE</sub> =4V, I <sub>C</sub> =16A	5			
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>C</sub> =8A, I <sub>B</sub> =800mA			1.4	V
		I <sub>C</sub> =16A, I <sub>B</sub> =3.2A			4	V
Base-Emitter Saturation Voltage	V <sub>BE(ON)</sub>	I <sub>C</sub> =8A, V <sub>CE</sub> =4V			2.2	V
<b>DYNAMIC CHARACTERISTICS</b>						
Small Signal Current Gain	h <sub>FE</sub>	I <sub>C</sub> =1A, V <sub>CE</sub> =4V, f=1kHz	40			
Magnitade Of Commom-Emitter Small Signal, Short Circuit Forward Current Transfer Ratio	h <sub>FE</sub>	I <sub>C</sub> =1A, f=50kHz	4			
Second Breakdown Collector With Base Forward Biased	I <sub>S</sub> /b	t=1s(non-repetive), V <sub>CE</sub> =100V	1.5			A

Note: Pulse Test: P<sub>W</sub><=300μs, Duty Cycle<=2%

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