



## MN2510

Preliminary

**NPN EPITAXIAL SILICON TRANSISTOR**

### NPN TRANSISTOR

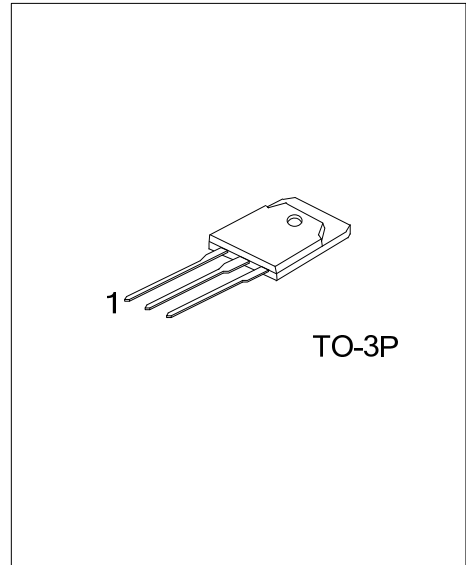
#### DESCRIPTION

The UTC **MN2510** is an NPN transistor, it uses UTC's advanced technology to provide the customers with high DC current gain and high collector-emitter breakdown voltage, etc.

The UTC **MN2510** is suitable for automobile power amplifiers, etc.

#### FEATURES

- \* High DC current gain (MIN = 40 @  $V_{CE} = 4V, I_C = 12A$ )
- \* High collector-emitter breakdown voltage (MIN = 100V)



#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MN2510L-x-T3P-T	MN2510G-x-T3P-T	TO-3P	B	C	E	Tube

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

<p>MN2510L-x-T3P-T</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Halogen Free</p>	<p>(1) T: Tube (2) T3P: TO-3P (3) refer to CLASSIFICATION OF <math>h_{FE}</math> (4) L: Lead Free, G: Halogen Free</p>
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■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ )

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	100	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	25	A
Base Current	$I_B$	5	A
Collector Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_C$	125	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ 150	$^\circ\text{C}$

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.

■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ )

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=100\text{V}$			10	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=6\text{V}$			10	$\mu\text{A}$
Collector-Emitter Voltage	$V_{(BR)CEO}$	$I_C=50\text{mA}$	100			V
DC Current Gain (Note 1)	$h_{FE}$	$V_{CE}=4\text{V}, I_C=12\text{A}$	40		120	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=12\text{A}, I_B=1.2\text{A}$			1.5	V
Base- Emitter Saturation Voltage	$V_{BE(ON)}$	$V_{CE}=4\text{V}, I_C=12\text{A}$			1.8	V
Cut-Off Frequency	$f_T$	$V_{CE}=12\text{V}, I_E=-1\text{A}$		20		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0\text{A}, f=1\text{MHz}$		200		pF

■ CLASSIFICATION OF  $h_{FE}$

RANK	R	O
$h_{FE1}$	40~80	60~120

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