



2SD2170

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

SILICON NPN EPITAXIAL TYPE (DARLINGTON POWER)

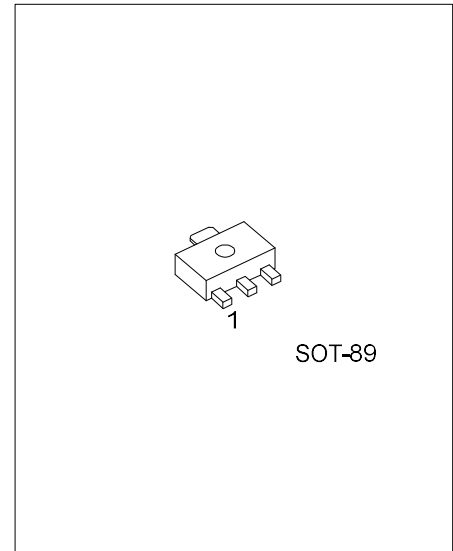
DESCRIPTION

The UTC **2SD2170** is a silicon NPN epitaxial type transistors, including a zener diode between collector and base. it uses UTC's advanced technology to provide customers high DC current gain.

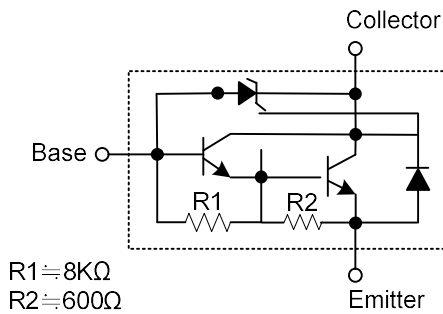
The UTC **2SD2170** is suitable for solenoid drive and motor drive applications.

FEATURES

- * High DC current gain
- * Zener diode included between collector and base



EQUIVALENT CIRCUIT



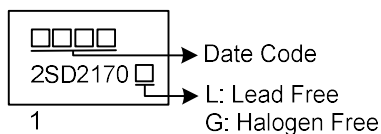
ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SD2170L-AB3-R	2SD2170G-AB3-R	SOT-89	B	C	E	Tape Reel

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

<p>2SD2170G-AB3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AB3: SOT-89</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



■ **ABSOLUTE MAXIMUM RATINGS** ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	90	V
Collector-Emitter Voltage	V_{CEO}	90	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	DC	I_C	2
	Pulse	I_{CP}	3
Collector Power Dissipation (Note 2)	P_C	0.5	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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. Single pulse $P_W=10\text{ms}$, Duty=1/2.

3. When mounted on a 40 x 40 x 0.7 mm ceramic board.

■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=50\mu\text{A}$, $I_B=0$	80		110	V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	80		110	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=70\text{V}$, $I_E=0$			10	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$			3	mA
DC Current Gain	h_{FE}	$V_{CE}=2\text{V}$, $I_C=1\text{A}$	1000		10000	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C/I_B=1\text{A}/1\text{mA}$			1.5	V
Transition frequency	f_T	$V_{CB}=5\text{V}$, $I_E=0.1\text{A}$, $f=30\text{MHz}$		80		MHz

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