

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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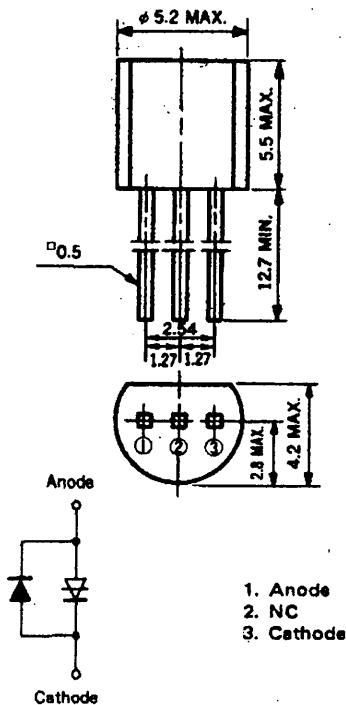
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PNPN SWITCH NFD15

PNPN SWITCH

PACKAGE DIMENSIONS in millimeters



The NFD15 is a unilateral switch consist of PNPN structure. Fundamental characteristic is same to SCR without gate lead.

FEATURES

- Built in Diode
- Break over voltage $V_{BO} = 96$ to 152 V
- Small break over current (Negative resistance characteristic).
- Plastic TO-92 package.
- Shortest turn on time.

APPLICATIONS

- Gas, Oil ignitor.
- Fluorescent lamp starter.
- Various pulse generator.

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

ITEM	SYMBOL	RATING	UNIT
Repetitive Peak Anode Current	I_{TRM}	± 10 (Pulse Width = $100 \mu\text{s}$, duty = 0.1% , $T_a = 50^\circ\text{C}$) ± 50 (Pulse Width = $20 \mu\text{s}$, duty = 0.1% , $T_a = 50^\circ\text{C}$)	A
Non Repetitive Peak Anode Current	I_{TSM}	± 100 (Pulse Width = $10 \mu\text{s}$, $T_a = 50^\circ\text{C}$)	A
Rate of rise of On State Current	di_T/dt	± 30	A/ μs
On State Current	$I_{T(AV)}$	± 250	mA
Operating Temperature	T_{opt}	-25 to $+125$	$^\circ\text{C}$
Storage Temperature	T_{stg}	-50 to $+125$	$^\circ\text{C}$

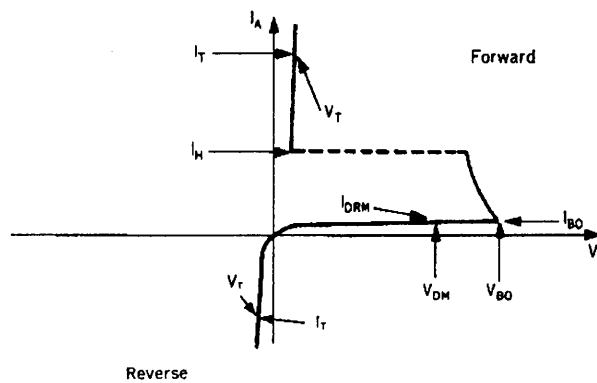
ELECTRICAL CHARACTERISTICS (Unless Otherwise Specified, $T_s = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Breakover Voltage	V_{BO}^*		96	—	152	V
Breakover Current	I_{BO}		—	—	100	μA
Repetitive Peak-off Current	I_{DRM}	$V_{DM} = 80\text{ V}$	—	—	10	μA
Peak On State Voltage	V_{TM}	$I_{TM} = 10\text{ A}$	—	—	± 2.5	V
Holding Current	I_H		—	20	—	mA
Breakover Voltage Temperature Coefficiency	γV_{BO}		—	± 0.1	—	$\% / ^\circ\text{C}$

*Subdivided V_{BO}

A	B	C	D	E
96 – 115 V	111 – 128 V	124 – 138 V	134 – 146 V	142 – 152 V

Fundamental Characteristic



Continuous Electric Discharge Type Gas Ignition Circuit

