

**Current Regulative Diode**  
**Surface Mount - 15-80mA**

**Description**

CRD is diode which supplies constant current to an electric circuit, even when power supply voltage fluctuations or load impedance fluctuations occur. CRD is used for current stabilization and current limiting.

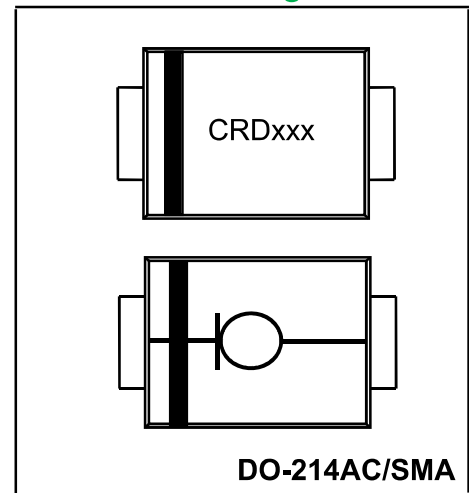
**Features**

- ◆ Silicon technology
- ◆ Low power loss
- ◆ high efficiency
- ◆ Eliminate voltage overshoot
- ◆ Epoxy resin package
- ◆ Will not fatigue
- ◆ RoHS Compliant

**Mechanical Characteristics**

- ◆ Package: SMA
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: Epoxy Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 1 per J-STD-020

**Pinning**



**Absolute Maximum Ratings**

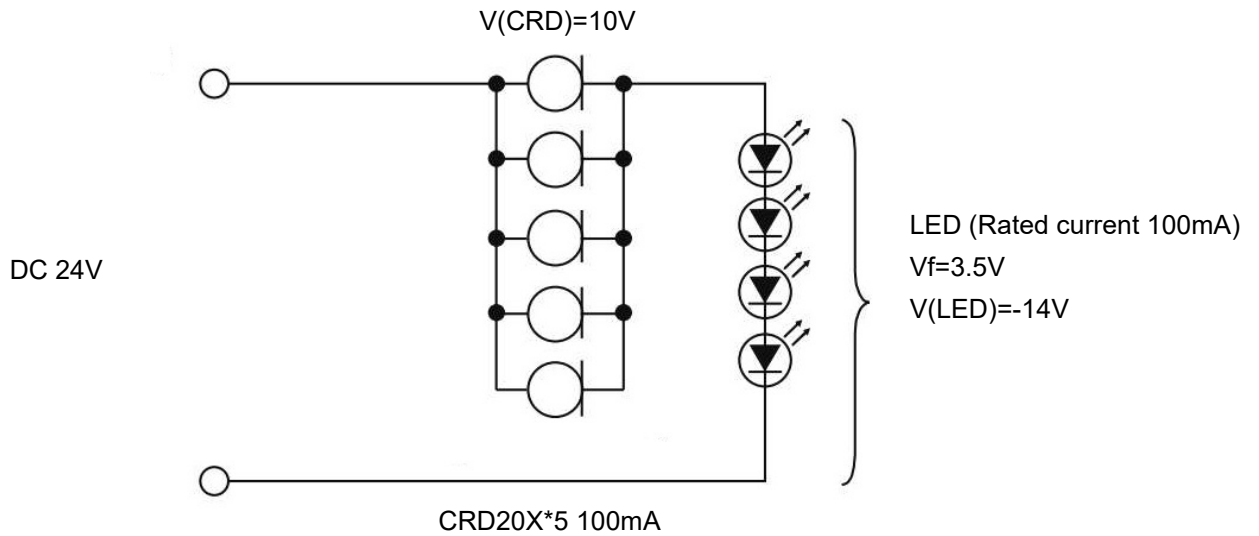
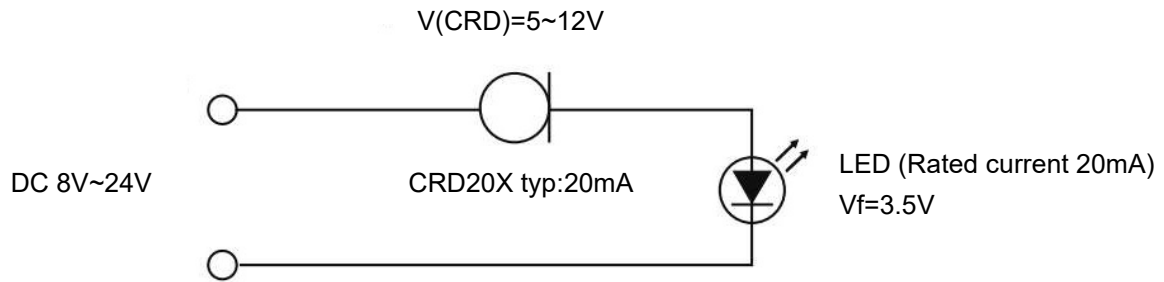
Parameter	Symbol	Value	Units
Operating Temperature Range	T <sub>J</sub>	-55 to 150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to 150	°C

**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)**

Part Number	Marking Code	Pinch-Off Current   <sub>p</sub> @V=20V		Active Voltage VK	Max. Voltage Loading V <sub>B</sub> max	Max. Power Loading P <sub>d</sub>
		min	max	V <sub>k</sub> @ 0.8I <sub>P</sub> min	V <sub>B</sub> @ 1.1I <sub>P</sub> max	max
		[mA]	[mA]	Max [V]	M	[W]
CRD015A	015A	12	18	3.2	190	1.2
CRD020A	020A	16	24	3.5	190	1.2
CRD025A	025A	22.5	27.5	4.0	190	1.2
CRD030A	030A	27	33	4.8	190	1.2
CRD035A	035A	31.5	38.5	5.2	190	1.2
CRD040A	040A	36	44	6.0	190	1.2
CRD050A	050A	45	55	6.5	190	1.2
CRD060A	060A	54	66	7.0	190	1.2
CRD080A	080A	72	88	8.0	190	1.2

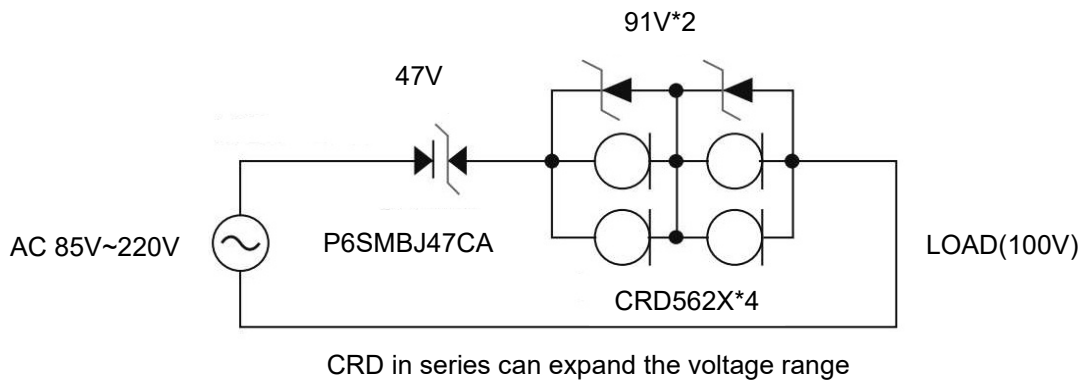
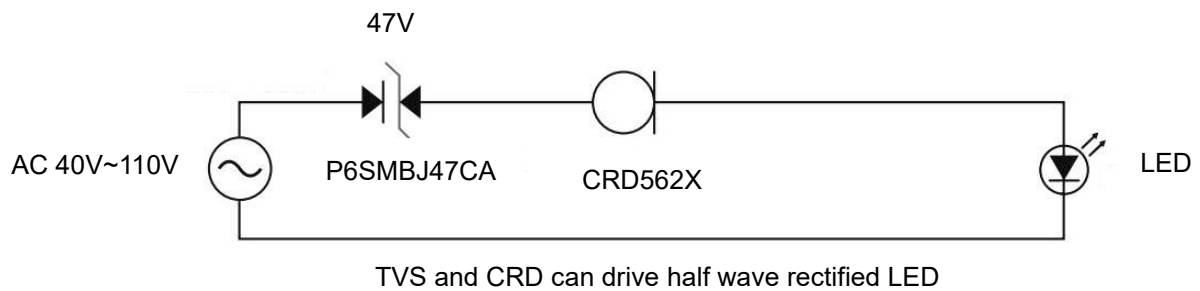
**CRD Application Circuits**

**1.Current supply circuit for LED brightness stabilization (DC power supply)**

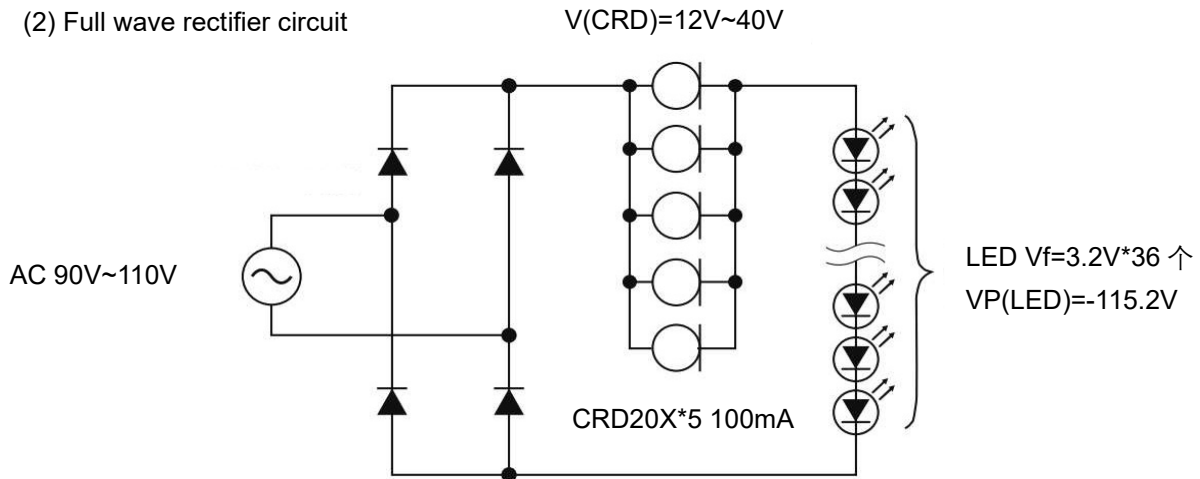


(AC power supply)

(1) Half wave rectification

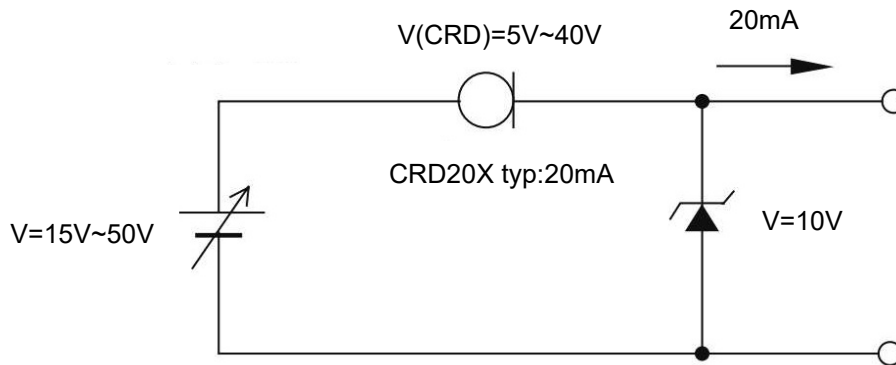


(2) Full wave rectifier circuit

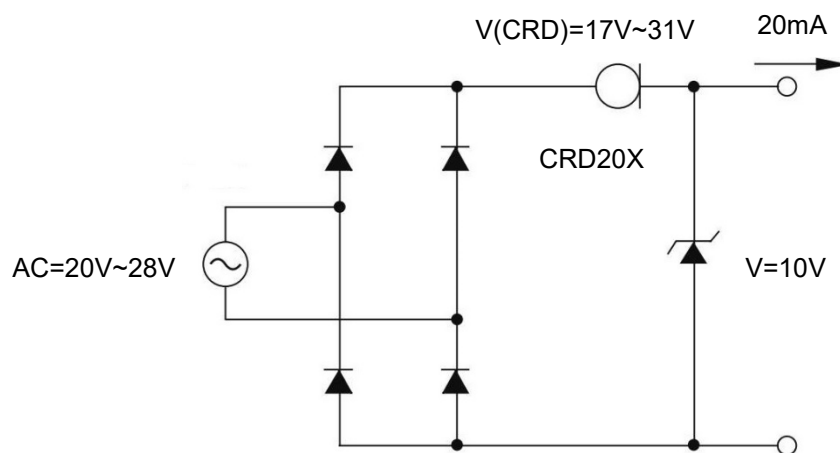


## 2. Constant voltage circuit

(1) Combination of Zener diode and CRD

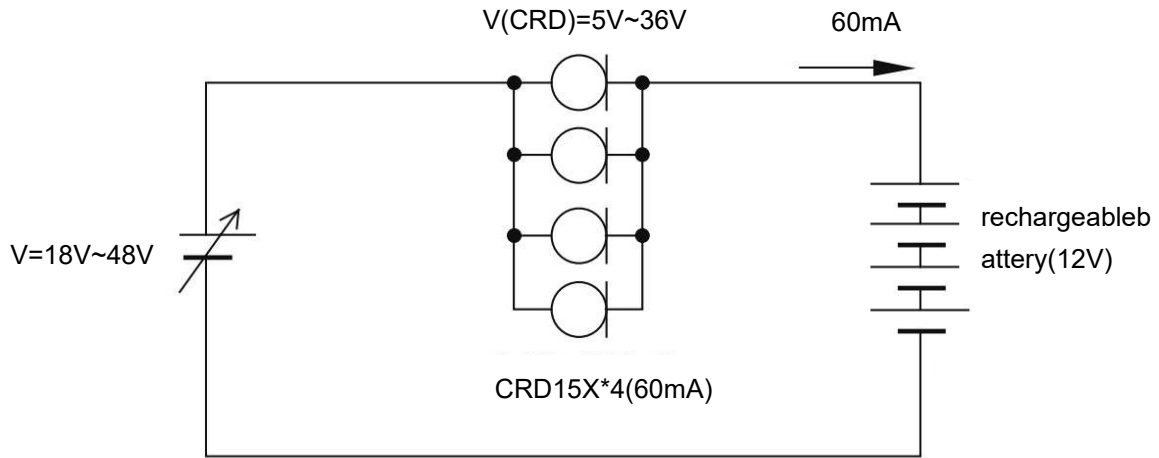


(2) Simple AC / DC converter

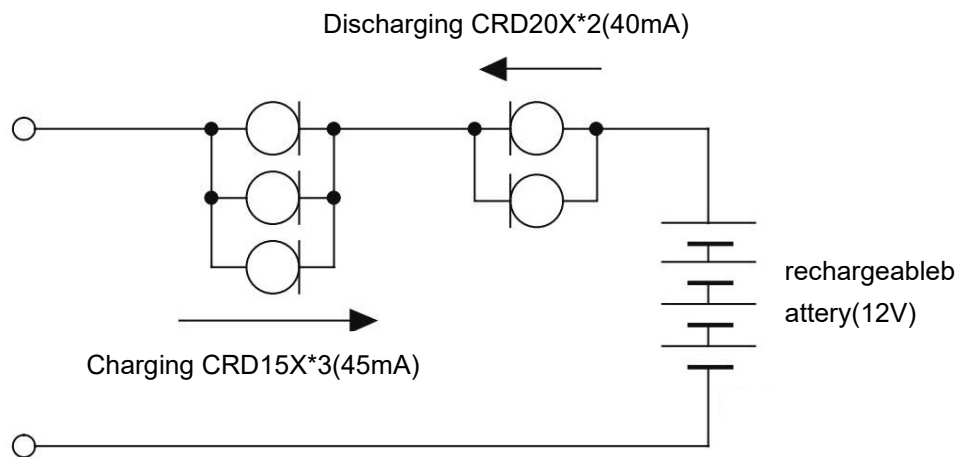


**3. Charge discharge circuit**

(1) Current charging circuit



(2) Battery charging and discharging current limiting circuit



By changing the number of CRDs in parallel, the charging /discharging current can be changed respectively

Marking Diagram



Ordering information

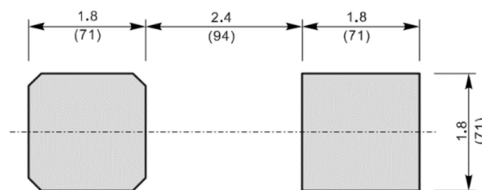
Package	Packing Description	Packing Quantity
DO-214AC SMA	Tape/Reel, 13"reel	5000PCS/Reel 50000PCS/Carton

Package Dimensions

DO-214AC SMA

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	1.9	2.45	75	96
D	4.0	4.5	157	181
E	2.5	2.8	100	110
H <sub>E</sub>	4.7	5.2	185	205
c	0.15	0.31	6	12
e	1.3	1.8	51	71
g	0.9	1.5	35	59
b	0.05	0.2	2	7.9
a	0.3		12	

The recommended mounting pad size



Unit :  $\frac{\text{mm}}{\text{mil}}$

## Disclaimer

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