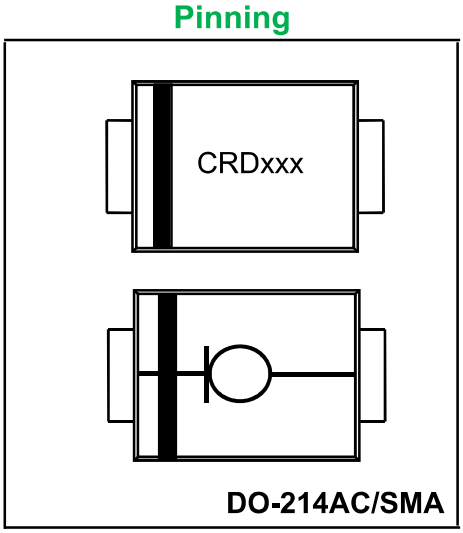
Current Regulative Diode

Surface Mount - 15-95mA



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

ECHANICAL CHARACTERISTICS

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

Absolute Maximum Ratings

Paramete	Symbol	Value	Units
Operating Temperature Range	T_J	-55 to 150	℃
Storage Temperature Range	T_{STG}	-55 to 150	℃

Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number	Marking Code	Pinch-Off Current |p@ V=20V		Active Voltage VK	Max. Voltage Loading VB max	Max. Power Loading P_D
		min	max	V_K@ 0.8Ip_{min}	V_B@ 1.1Ipmax	max
		[mA]	[mA]	Max [V]	[V]	[W]
CRD015A	015A	12	18	3.2	190	1.0
CRD020A	020A	16	24	3.5	190	1.0
CRD025A	025A	22.5	27.5	4.0	190	1.0
CRD030A	030A	27	33	4.8	190	1.0
CRD035A	035A	31.5	38.5	5.2	190	1.0
CRD040A	040A	36	44	6.0	190	1.0
CRD050A	050A	45	55	6.5	190	1.0
CRD060A	060A	54	66	7.0	190	1.0
CRD080A	080A	72	88	8.0	190	1.0
CRD095A	095A	87	103	8.0	190	1.0

Ratings And Characteristics Curves(Ta=25℃，Unless Otherwise Noted)

FIG.1:Regulator Current vs Temperature

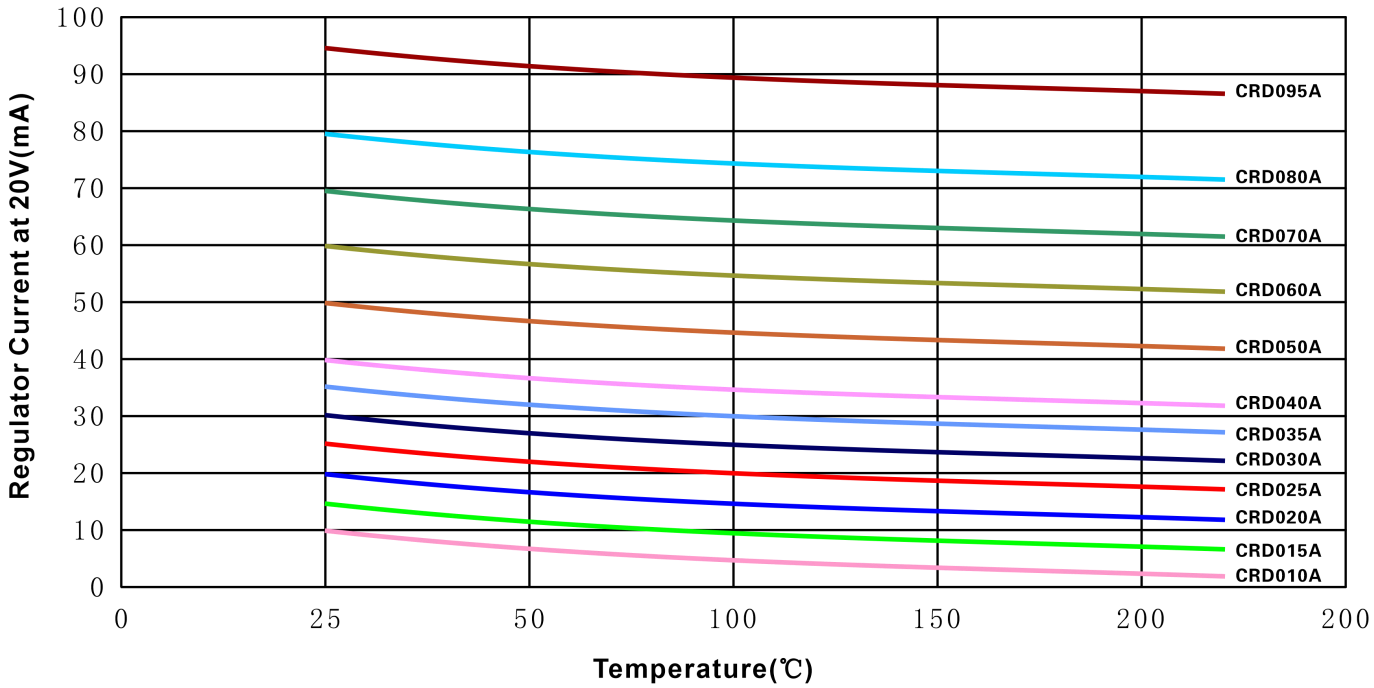
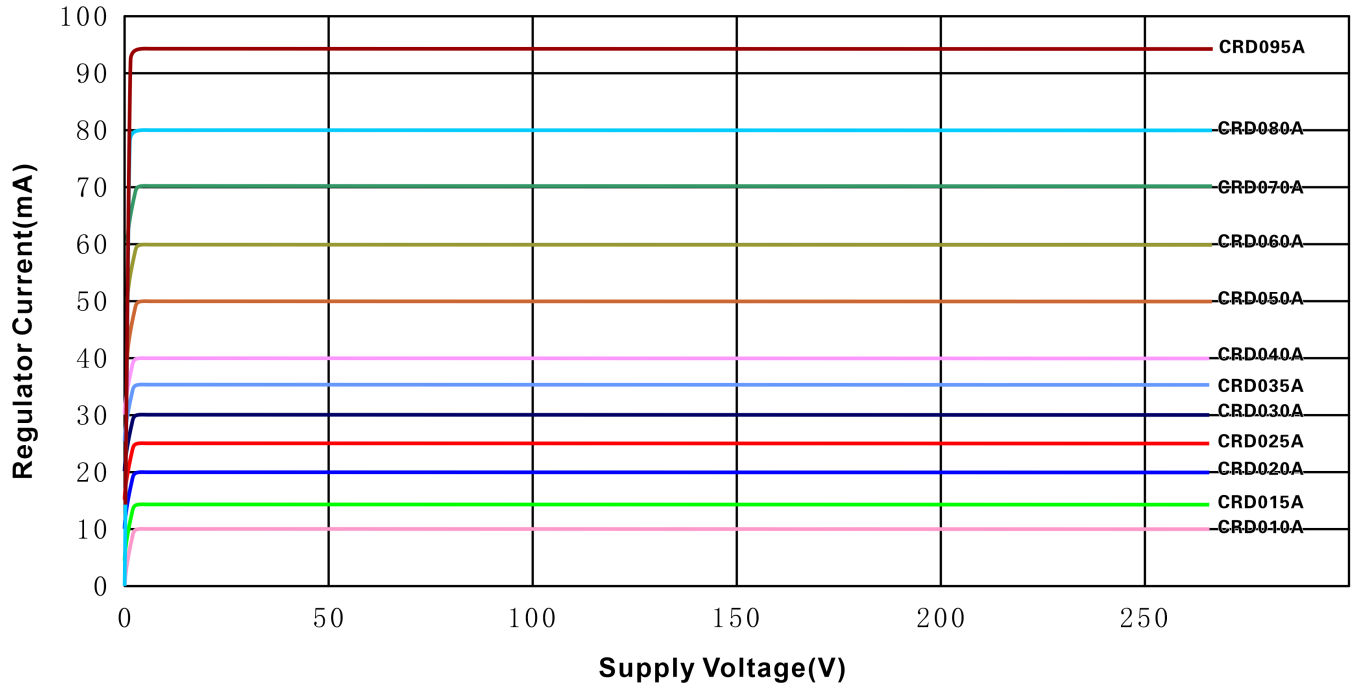
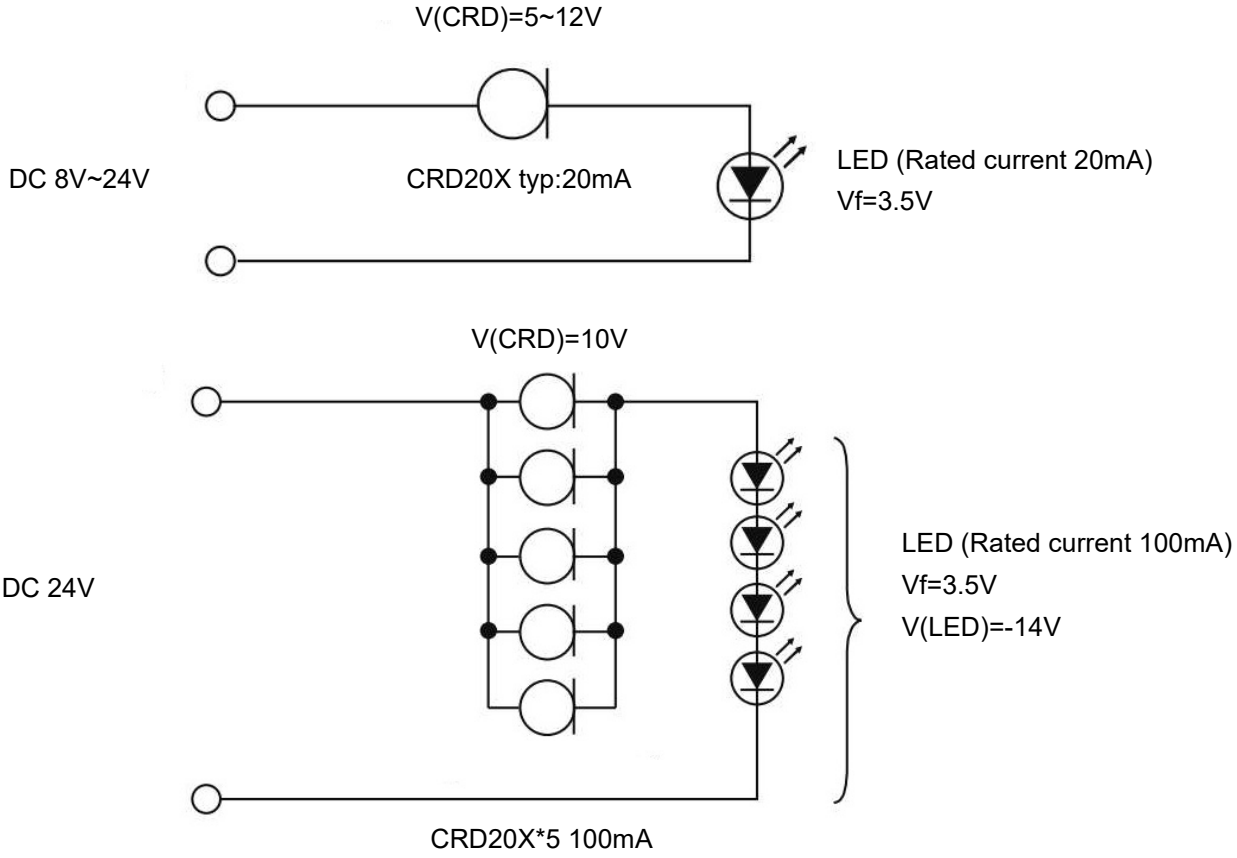


FIG.2:Regulator Current vs Supply Voltage



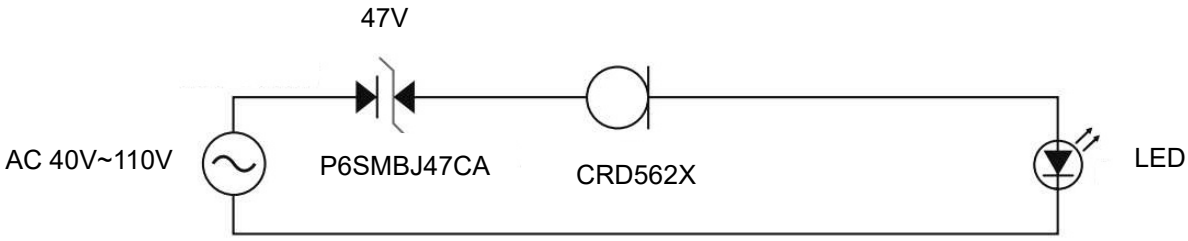
CRD Application Circuits

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

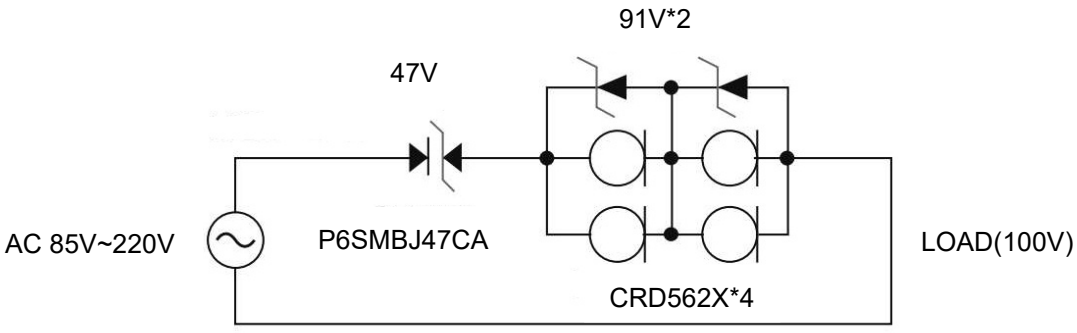


(AC power supply)

(1) Half wave rectification

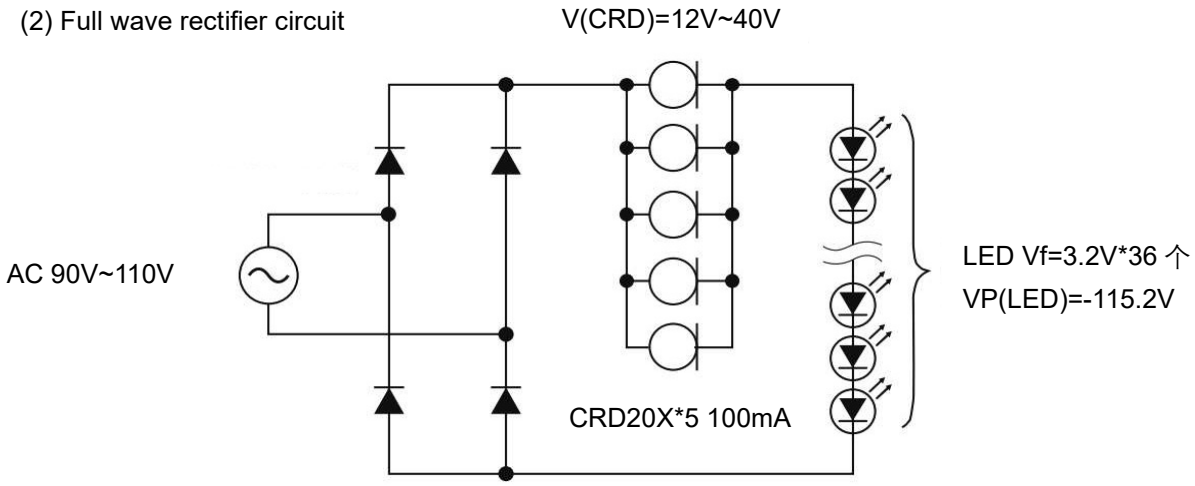


TVS and CRD can drive half wave rectified LED



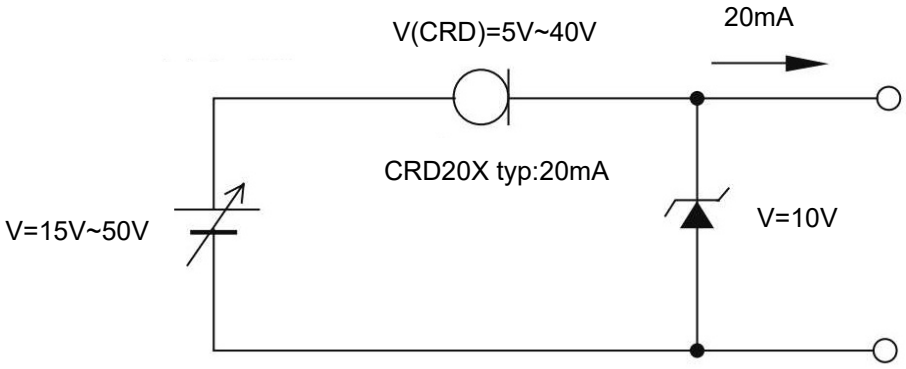
CRD in series can expand the voltage range

(2) Full wave rectifier circuit

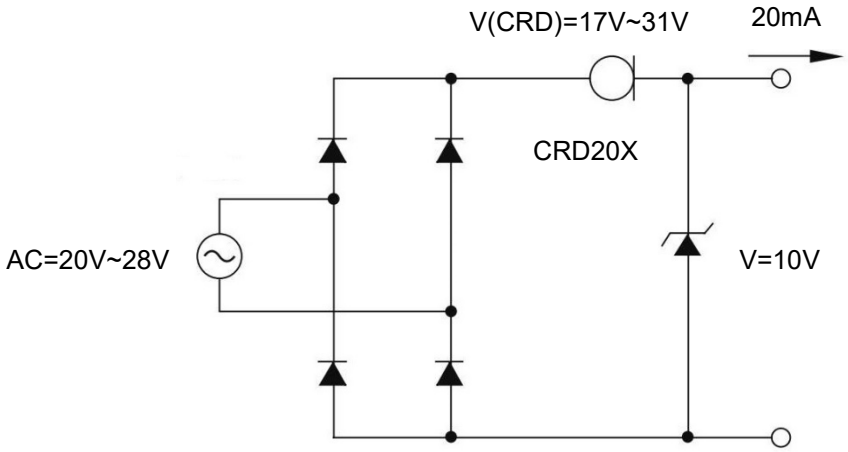


2. Constant voltage circuit

(1) Combination of Zener diode and CRD

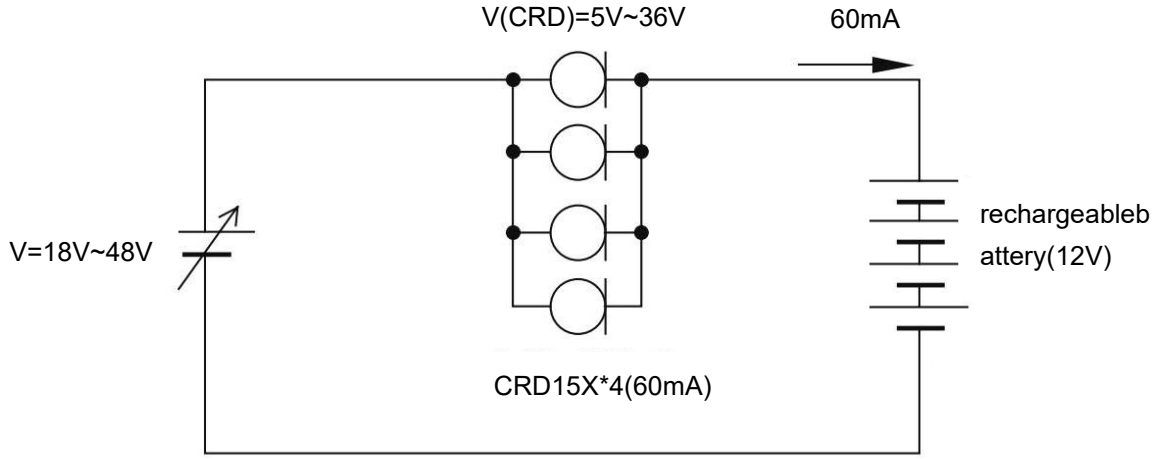


(2) Simple AC / DC converter

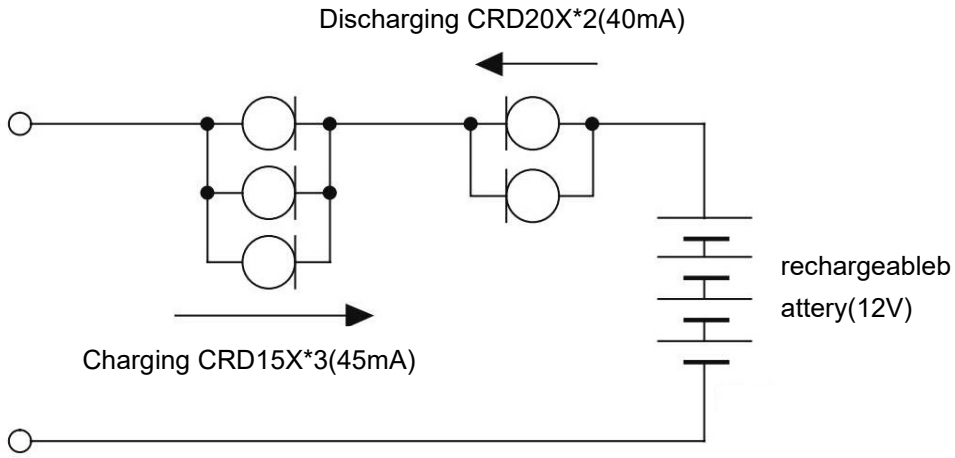


3. Charge discharge circuit

(1) Current charging circuit



(2) Battery charging and discharging currentlimiting circuit



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

Marking Diagram

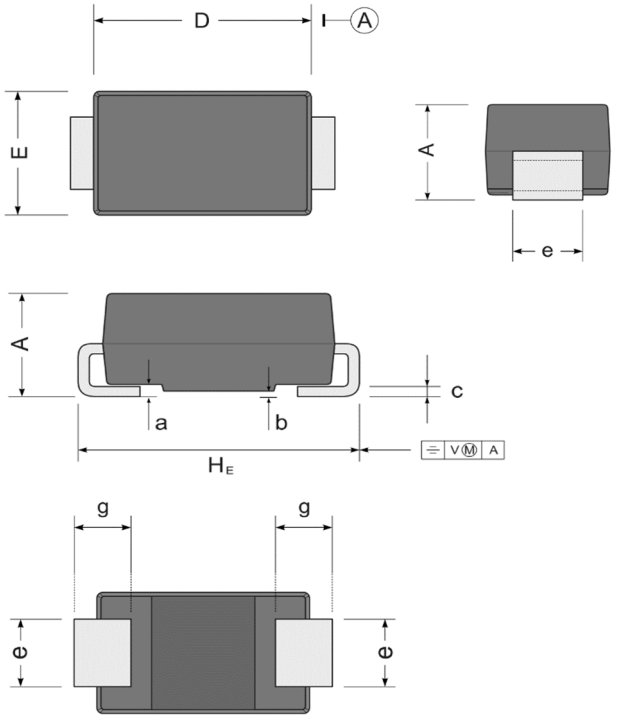


Ordering information

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

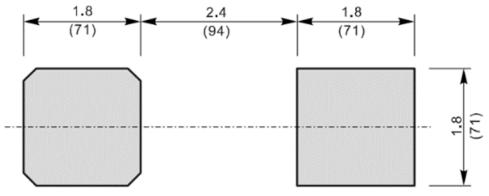
Package Dimensions

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_E	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 : mm (mil)

Disclaimer

The information presented in this document is for reference only. GuangDong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices),YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website https://www.yfwdiode.com, or consult YFW sales office for further assistance.