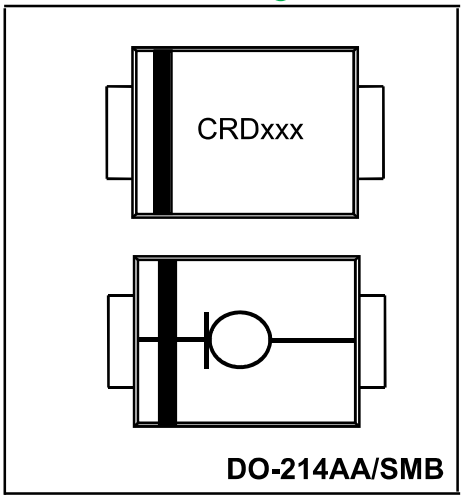
Current Regulative Diode

Surface Mount - 15-80mA

Pinning



Description

CRD is diode which supplies constant current to an electric circuit,even when power supply voltage fluctuations or load impedance fluctuations Configuration 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 DATA

- Package: SMB
- 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 Pd
		min	max	V_K@ 0.8Ip_{min}	V_B@ 1.1Ipmax	max
		[mA]	[mA]	Max [V]	[V]	[W]
CRD015B	015B	12	18	3.2	190	1.2
CRD020B	020B	16	24	3.5	190	1.2
CRD025B	025B	22.5	27.5	4.0	190	1.2
CRD030B	030B	27	33	4.8	190	1.2
CRD035B	035B	31.5	38.5	5.2	190	1.2
CRD040B	040B	36	44	6.0	190	1.2
CRD050B	050B	45	55	6.5	190	1.2
CRD060B	060B	54	66	7.0	190	1.2
CRD080B	080B	72	88	8.0	190	1.2

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

FIG.1:Regulator Current vs Temperature

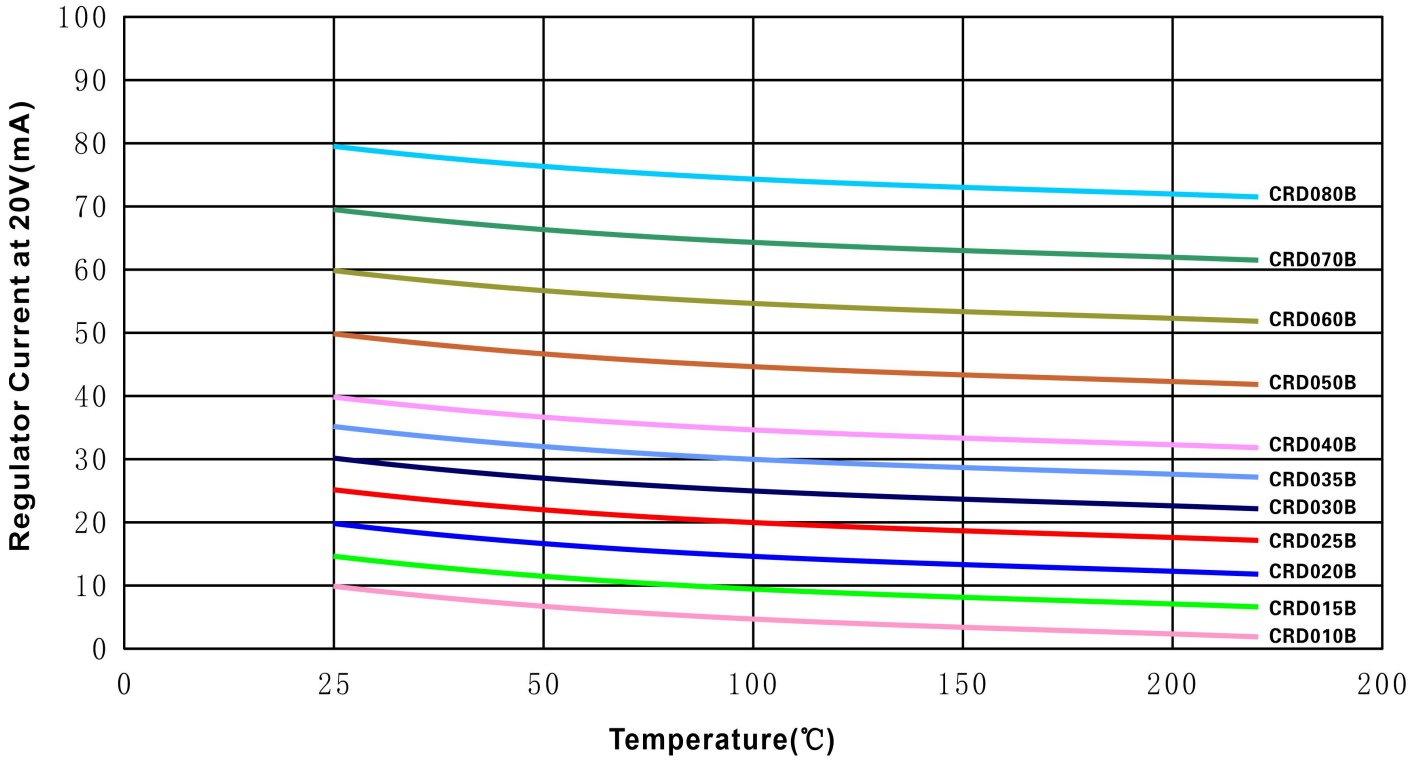
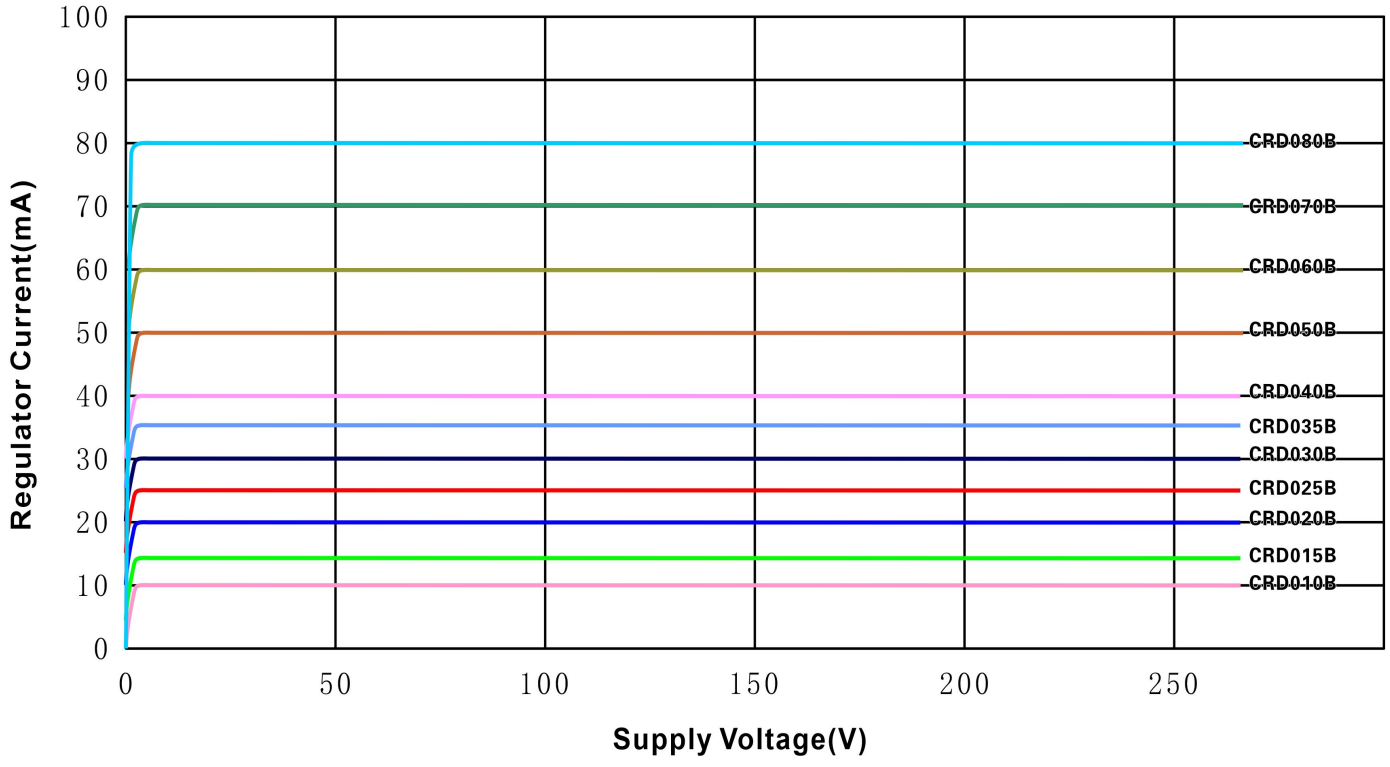
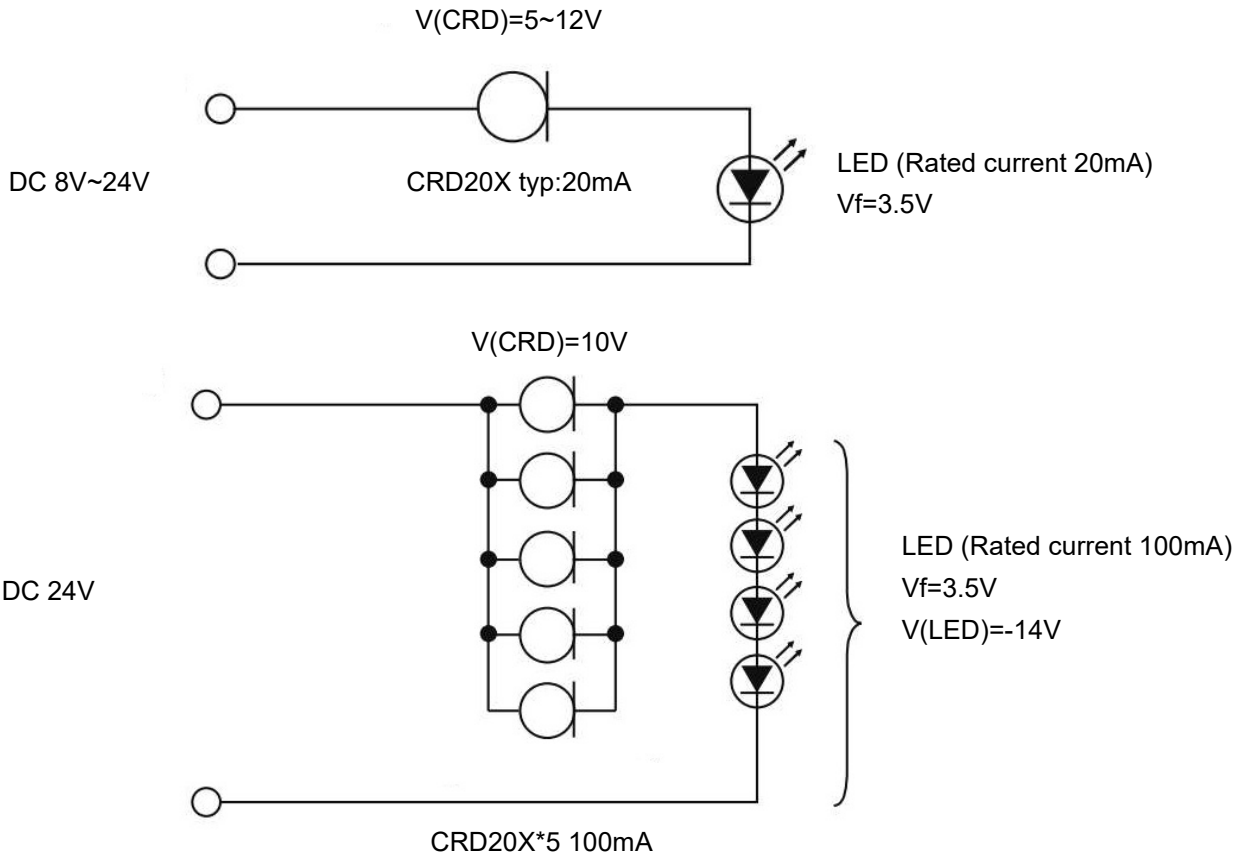


FIG.2:Regulator Current vs Supply Voltage



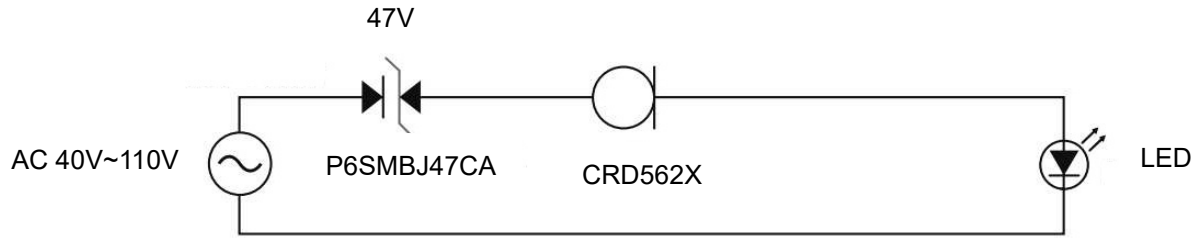
CRD Application Circuits

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

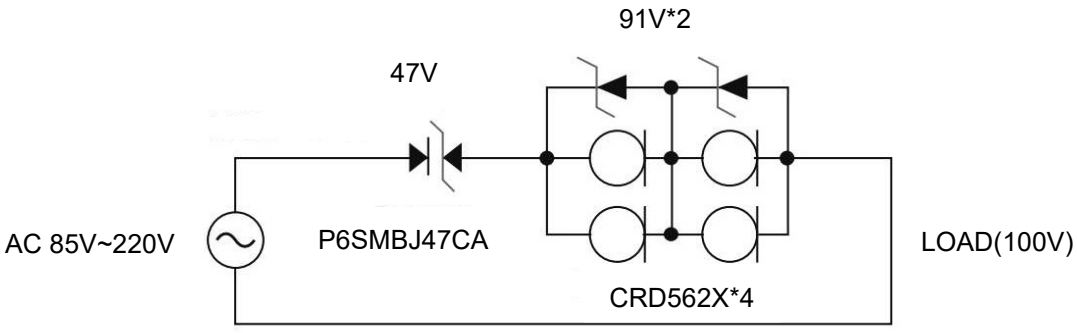


(AC power supply)

(1) Half wave rectification

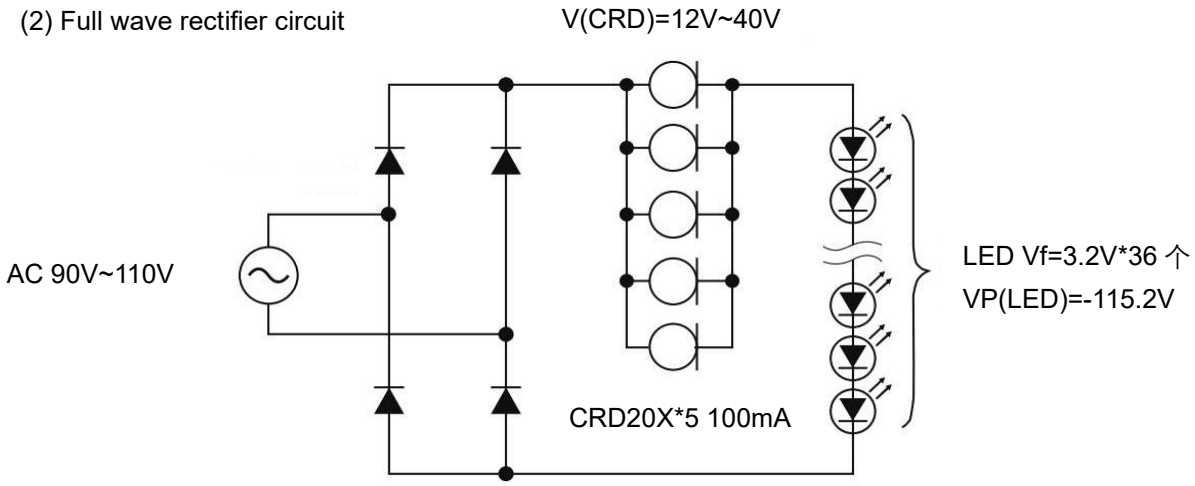


TVS and CRD can drive half wave rectified LED



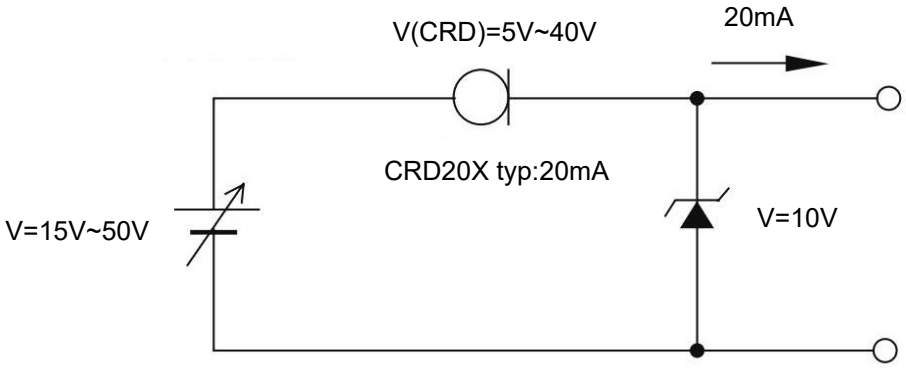
CRD in series can expand the voltage range

(2) Full wave rectifier circuit

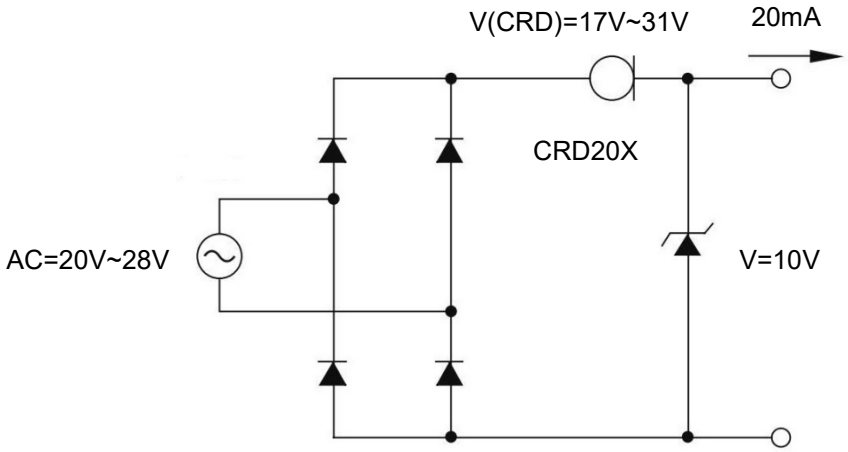


2. Constant voltage circuit

(1) Combination of Zener diode and CRD

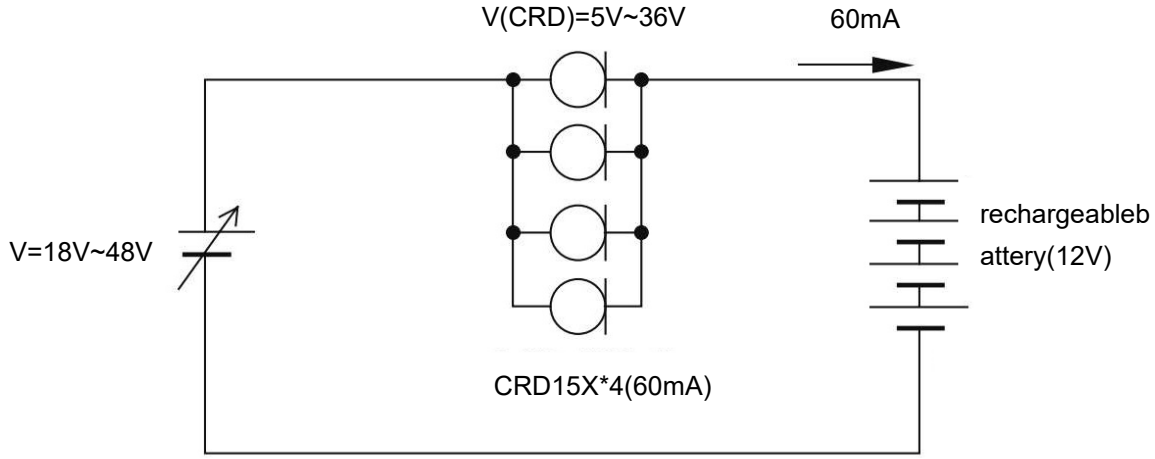


(2) Simple AC / DC converter

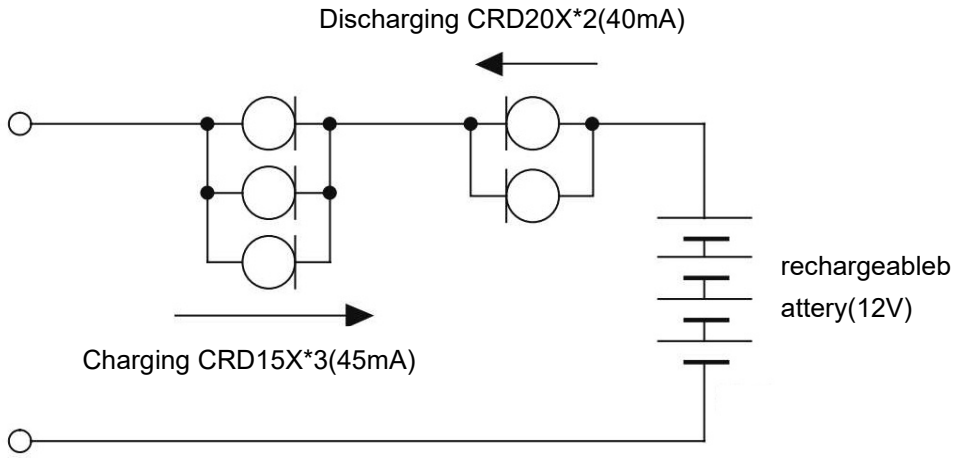


3. Charge discharge circuit

(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

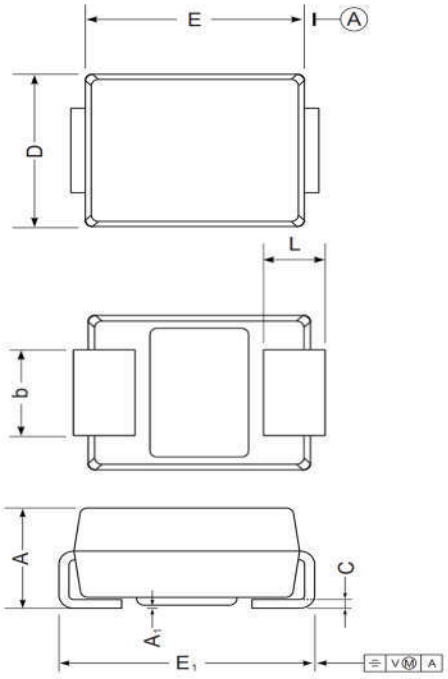


Ordering information

Package	Packing Description	Packing Quantity
DO-214AA SMB	Tape/Reel,13"reel	3000PCS/Reel 30000PCS/Carton

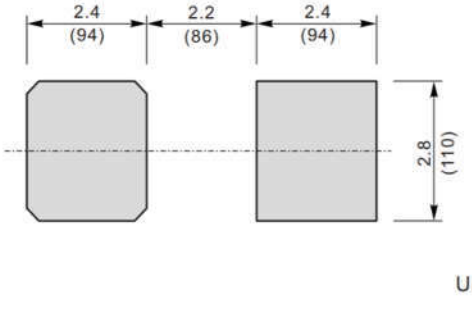
Package Dimensions

DO-214AA SMB



Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	2.13	2.44	84	96
E	4.06	4.70	160	185
D	3.3	3.94	130	155
E_1	5.08	5.59	200	220
A1	0.05	0.20	2.0	7.9
L	0.8	1.5	32	59
C	0.152	0.305	6	12
b	1.9	2.2	75	87

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.