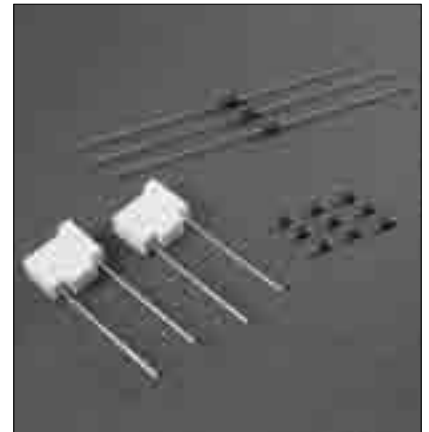
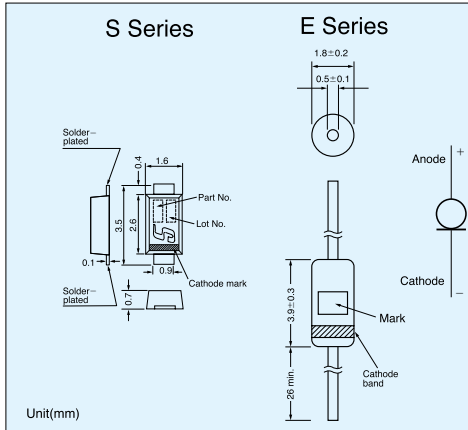
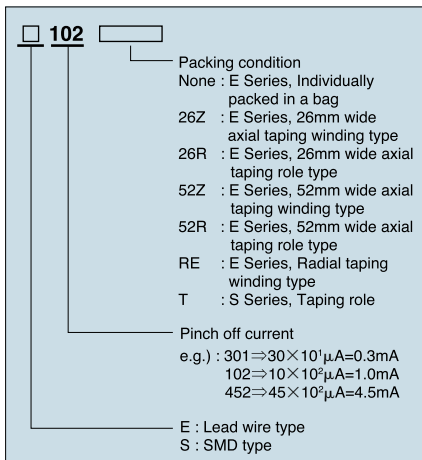


CURRENT REGULATIVE DIODE CRD

CRD is a 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.

Part number



Specifications

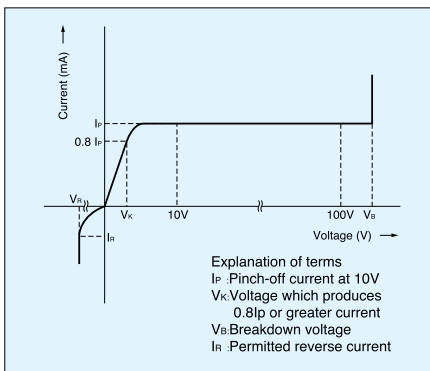
Part No.		Pinch-off current* ¹		Limiting current* ²		Limiting current ratio I _{100V} /I _p *I _{30V} /I _p	Temperature* ³ Coefficient (%/°C)
SMD	With Lead	Test Voltage	I _p (mA) Typical	min~max	V _k (V)		
S-101T	E-101	10V	0.10	0.05~0.21	0.5	0.8 I _p min	+2.10~+0.10
S-301T	E-301		0.30	0.20~0.42	0.8		+0.40~-0.20
S-501T	E-501		0.50	0.40~0.63	1.1		+0.15~-0.25
S-701T	E-701		0.70	0.60~0.92	1.4		0.00~-0.32
S-102T	E-102		1.00	0.88~1.32	1.7		-0.10~-0.37
S-152T	E-152		1.50	1.28~1.72	2.0		-0.13~-0.40
S-202T	E-202		2.00	1.68~2.32	2.3		-0.15~-0.42
S-272T	E-272		2.70	2.28~3.10	2.7		-0.18~-0.45
S-352T	E-352		3.50	3.00~4.10	3.2		-0.20~-0.47
S-452T	E-452		4.50	3.90~5.10	3.7		-0.22~-0.50
S-562T	E-562		5.60	5.00~6.50	4.5		-0.25~-0.53
S-822T	E-822		8.20	6.56~9.84	3.1		-0.25~-0.45
S-103T	E-103		10.0	8.00~12.0	3.5		-0.25~-0.45
S-123T	E-123		12.0	9.60~14.4	3.8		-0.25~-0.45
S-153T	E-153		15.0	12.0~18.0	4.3		-0.25~-0.45
S-183T	E-183		18.0	16.0~20.0	4.6		-0.25~-0.45

*1,*2 Pinch-off current limiting current are measured by impulse wave at 25°C

*3 Temperature coefficient is measured between 25°C and 50°C.

*I_{30V}/I_p

Basic characteristics



Ratings

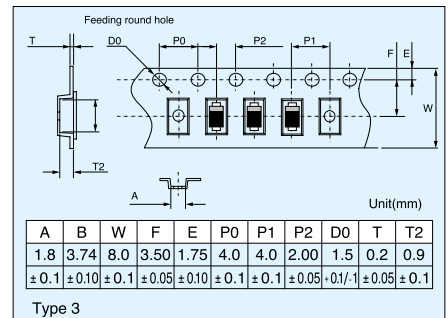
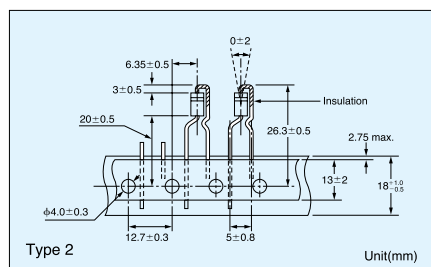
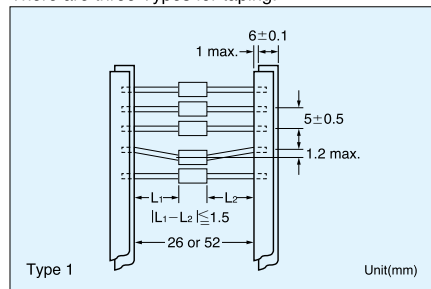
	E series	S series
Rating power	300mW	500mW
Rated voltage (Pulse wave)	100V(E-101~E-562)	100V(S-101T~S-562T)
Reverse current	50V(E-822~E-183)	50V(S-822T~S-183T)
Reverse current	50mA	
Junction temp	150°C	
Operating temp	-30°C~150°C	-40°C~150°C

Maximum rating voltage

Part No.	Voltage	Part No.	Voltage
E101~E-562	100V	S-101T~S-562T	100V
E-822	30	S-822T	50
E-103		S-103T	
E-123		S-123T	
E-153	25	S-153T	40
E-183		S-183T	

Taping

There are three Types for taping.

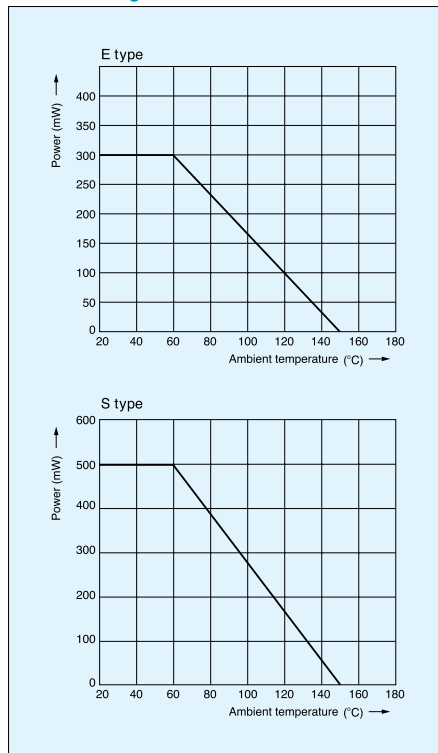


*In principal elements are set with cathode side on the round hole side.

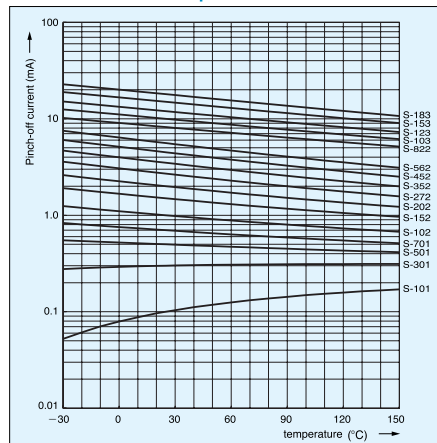
Minimum taping quantity for

Type 1 Roll.....5000pcs
 Box.....2500pcs
 Type 2 4000pcs
 Type 3 3000pcs

Power derating



Pinch-off current Temperature

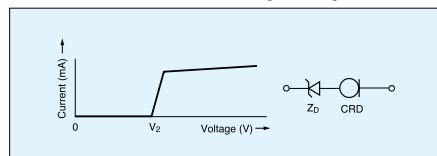


CRD in parallel

The use of CRD in parallel increases their current handling capabilities.

Increasing the voltage range using a zener diode

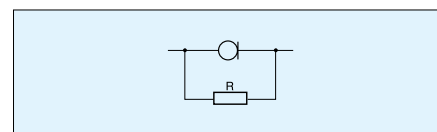
Connecting zener diodes in series with the line ensures that the current is constant in high-voltage area.



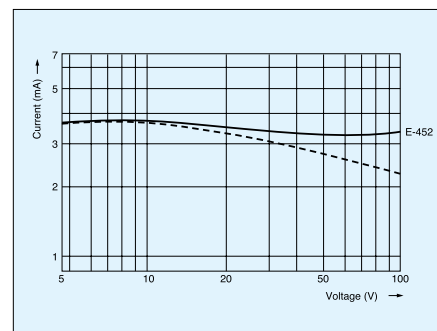
The compensation of current reduction due to self heating

Placing resistors in parallel with CRD can correct any current decrease when the applied voltage increases. The following values are typical for correction resistors.

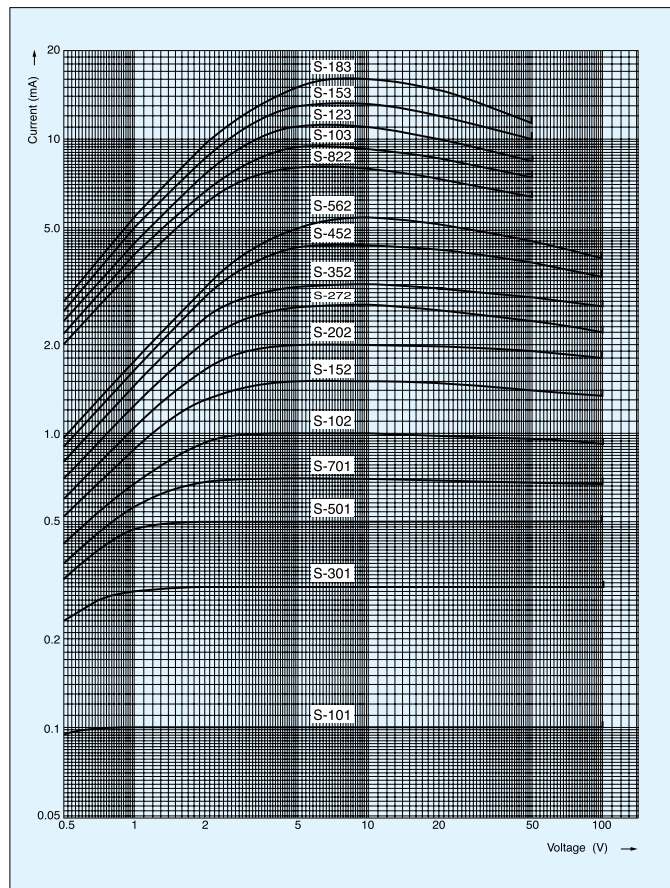
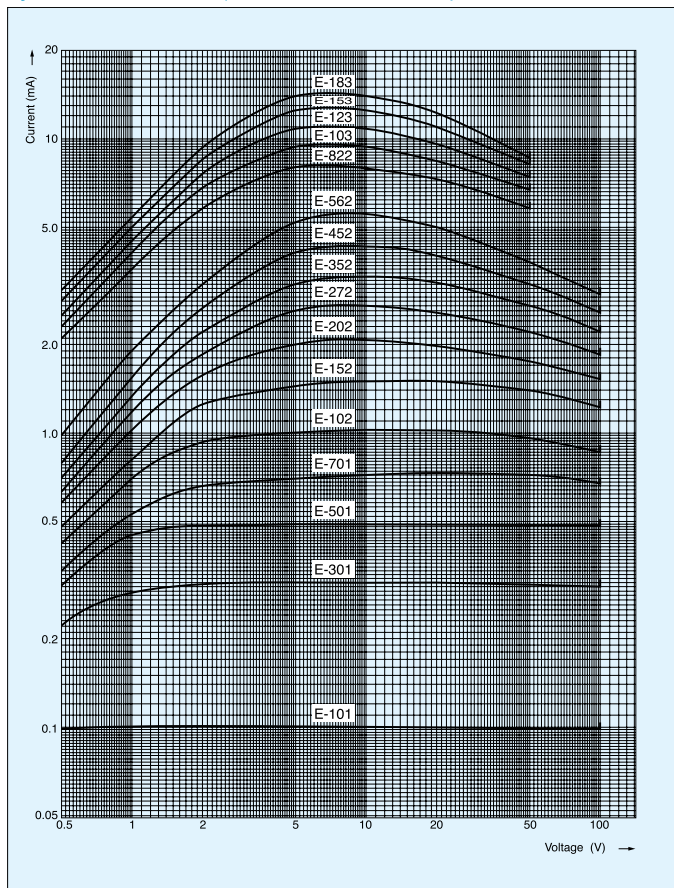
E-102	1MΩ	E-352	82kΩ
E-152	390kΩ	E-452	56kΩ
E-202	240kΩ	E-562	39kΩ
E-272	120kΩ		



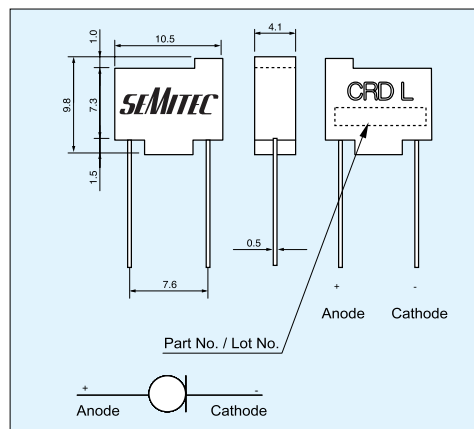
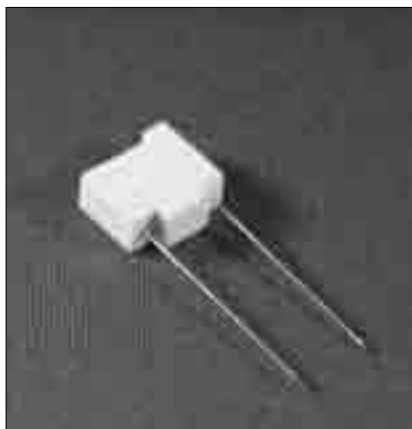
Compensative resistor is not necessary if the current value is less than 1 mA.



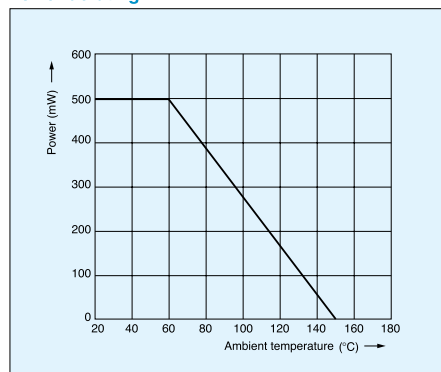
Dynamic characteristics (saturation characteristics)



CURRENT REGULATIVE DIODE CRD - L



Power derating



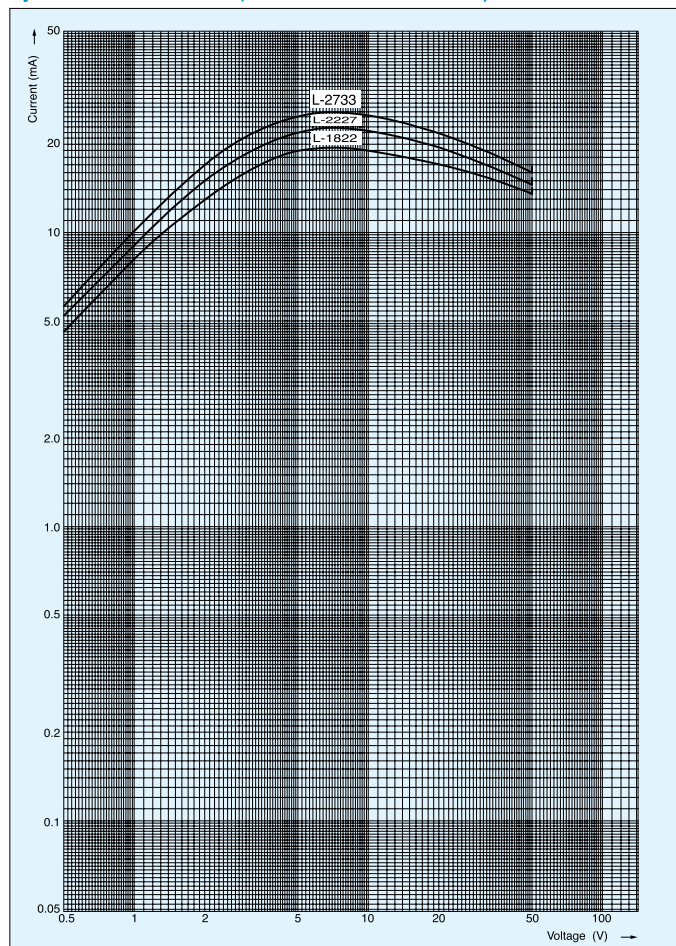
Specifications

Part No.	Pinch-off current* ¹			Limiting current* ²		Limiting current ratio $I_{100V}/I_p^* I_{30V}/I_p$	Temperature* ³ Coefficient (%/°C)
	Test Voltage	I_p (mA) Typical	min ~ max	V_k (V)	I_k (mA)		
L-1822	10V	20.0	18.0~22.0	3.90	0.8 I_{pmin}	1.0 max	-0.25 ~ -0.45
L-2227		25.0	22.0~27.0	4.00			-0.25 ~ -0.45
L-2733		30.0	27.0~33.0	4.20			-0.25 ~ -0.45

*^{1,2} Pinch-off current and Limiting current are measured by an impulse wave at 25°C

*³ Specified minimum AC impedance when small AC voltage of 10kHz is added to bias of DC15V for L-1822 to L-2733

Dynamic characteristics (saturation characteristics)



Ratings

	L series
Rating power	500mw
Rated voltage (Pulse wave)	50V
Reverse current	50mA
Junction temp	150°C
Operating temp	-25°C~150°C

Maximum rating voltage

Part No.	Voltage
L-1822	30V
L-2227	
L-2733	25V

LED Applications

