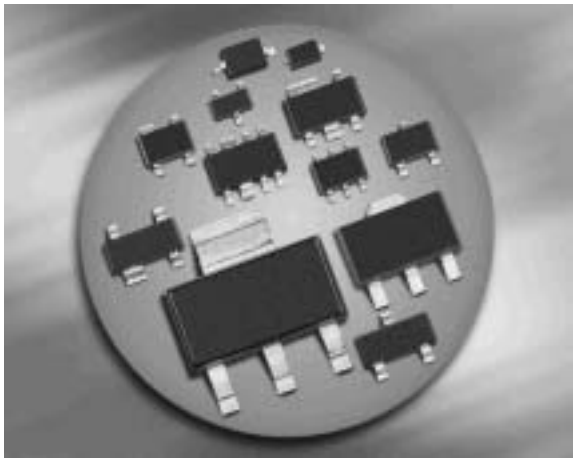
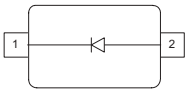
Silicon Variable Capacitance Diode

- For Hyperband TV / VTR tuners, Bd I
- Large capacitance ratio, low series resistance
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101



SD199



Type	Package	Configuration	L_S(nH)	Marking
SD199E6327	SOD323	single	1.8	red S

Maximum Ratings at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	30	V
Peak reverse voltage-	V_{RM}	35	
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

[1]Pb-containing package may be available upon special request

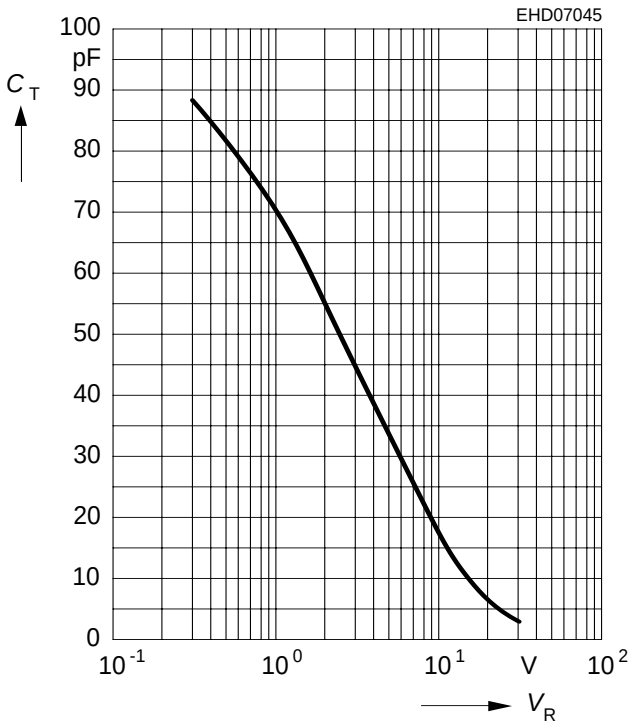
Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
V_R = 30 V		-	-	10	
V_R = 30 V, T_A = 85		-	-	200	
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 1 V, f = 1 MHz		62	69	76	
V_R = 2 V, f = 1 MHz		47	54	62	
V_R = 25 V, f = 1 MHz		2.85	3.18	3.6	
V_R = 28 V, f = 1 MHz		2.8	3.05	3.3	
Capacitance ratio V_R = 1 V, V_R = 28 V, f = 1 MHz	C_{T1}/C_{T28}	19.5	22.6	25	-
Capacitance ratio V_R = 2 V, V_R = 25 V, f = 1 MHz	C_{T2}/C_{T25}	15	17	19	
Capacitance matching[1)] V_R = 1 ... 28 V, f = 1 MHz, 8 diodes sequence	$\Delta C_T/C_T$	-	-	2.5	%
Series resistance V_R = 5 V, f = 470 MHz	r_S	-	1.15	-	Ω

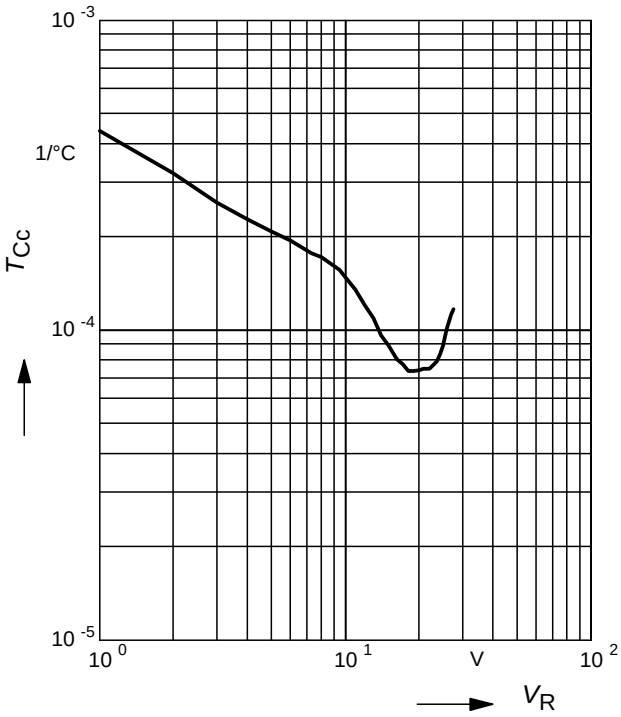
[1]For details please refer to Application Note 047.

Diode capacitance $C_T = f(V_R)$

f = 1MHz

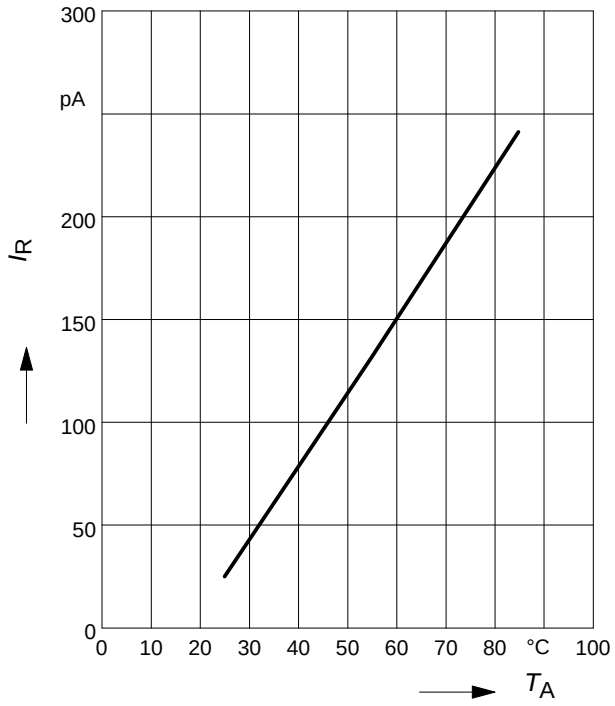


Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$



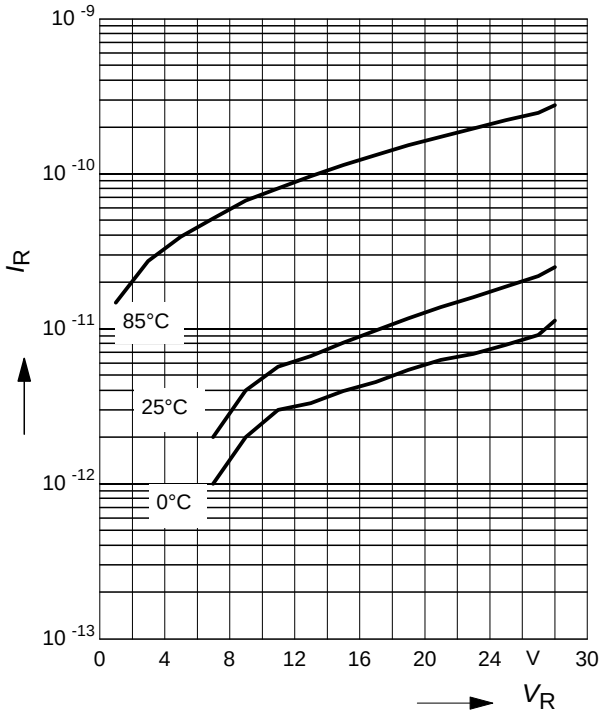
Reverse current $I_R = f(T_A)$

V_R = 28 V

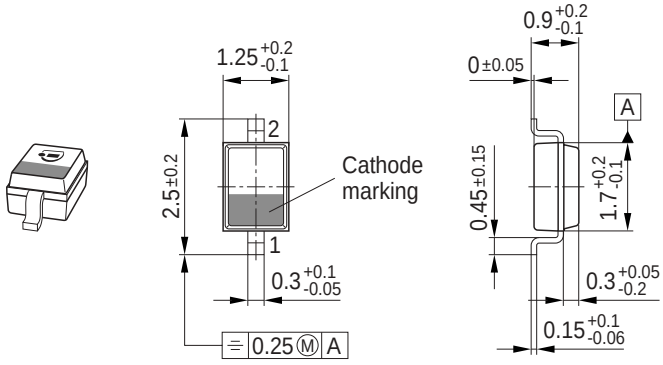


Reverse current $I_R = f(V_R)$

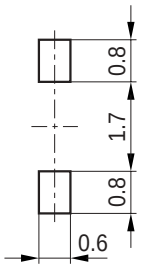
T_A = Parameter



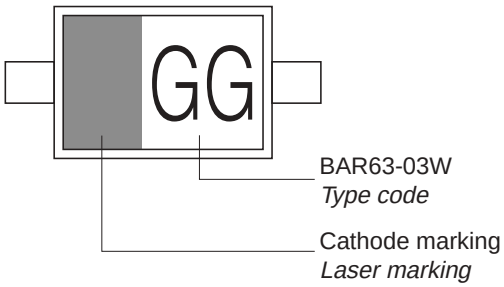
Package Outline



Foot Print

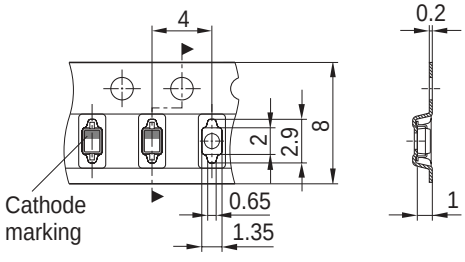


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



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