



TO-263-2L Plastic-Encapsulate Diodes

CCDA40N10T Schottky Barrier Rectifier

VRRM	V _F (Type)	I _o
100V	0.66V	40(2×20)A

DESCRIPTION

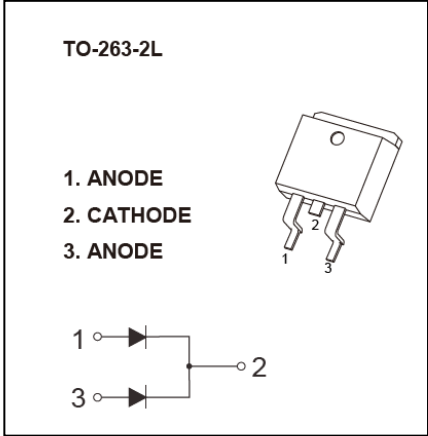
The CCDA40N10T uses trench technology . It can be used in a wide variety of applications.

Features

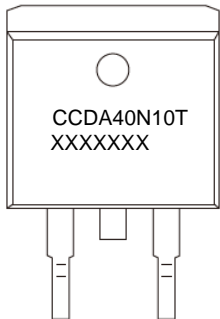
- Low Power Loss,High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop
- AEC-Q101 Qualified

Applications

- Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting, especially for automotive load dump protection application.



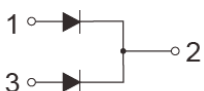
MARKING



CCDA40N10T =Part No.

XXXXXXX = Code

EQUIVALENT CIRCUIT



ABSOLUTE MAXIMUM RATINGS ($T_c=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Limit	Unit
V_{RRM}	Peak repetitive reverse voltage	100	V
V_{RWM}	Working peak reverse voltage		
V_R	DC blocking voltage		
$V_{R(RMS)}$	RMS reverse voltage	70	V
I_O	Average rectified output current	40	A
I_{FSM}	Non-Repetitive peak forward surge current (8.3ms half sine wave)	250	A
P_D	Power Dissipation	75	W
$R_{\theta JC}$	Thermal resistance from junction to case , $T_c=25^{\circ}\text{C}$	2.0	$^{\circ}\text{C/W}$
$R_{\theta JA}$	Thermal resistance from junction to ambient	62.5	$^{\circ}\text{C/W}$
T_j, T_{stg}	Operating Junction and Storage Temperature Range	-55~+175	$^{\circ}\text{C}$
-	Soldering Temperature , for 10S(1.6mm from case)	260	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

$T_c=25^{\circ}\text{C}$ unless otherwise specified

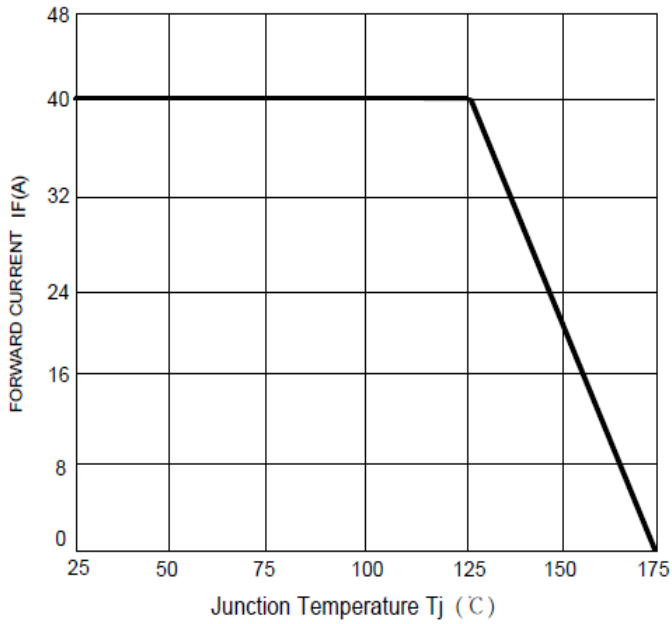
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	$I_R = 1\text{mA}$	100			V
Static Forward Voltage ¹	V_F	$I_F = 1\text{A}$		0.36	0.47	V
		$I_F = 10\text{A}$		0.53	0.57	V
		$I_F = 20\text{A}$		0.66	0.74	V
Cathode-To-Anode Leakage Current ²	I_R	$V_R = 100\text{V}$		18	50	μA
Operating and Storage Temperature Range	T_j, T_{STG}	-55 $^{\circ}\text{C}$ to 175 $^{\circ}\text{C}$ Max				

Notes:

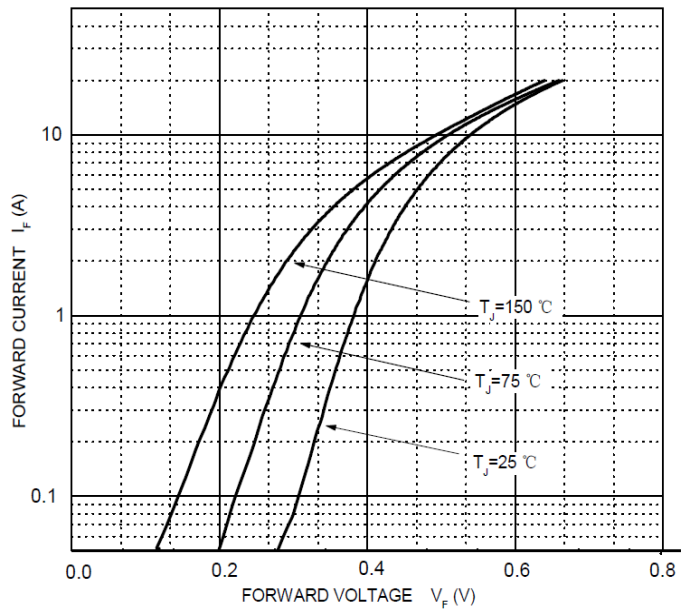
- 1.Electrical characteristics are reported for the bare die.Variations in customer packaging materials, dimensions and processes may affect parametric Performance.
- 2.Pulse width < 300 uS, Duty cycle < 2% .

Typical Characteristics

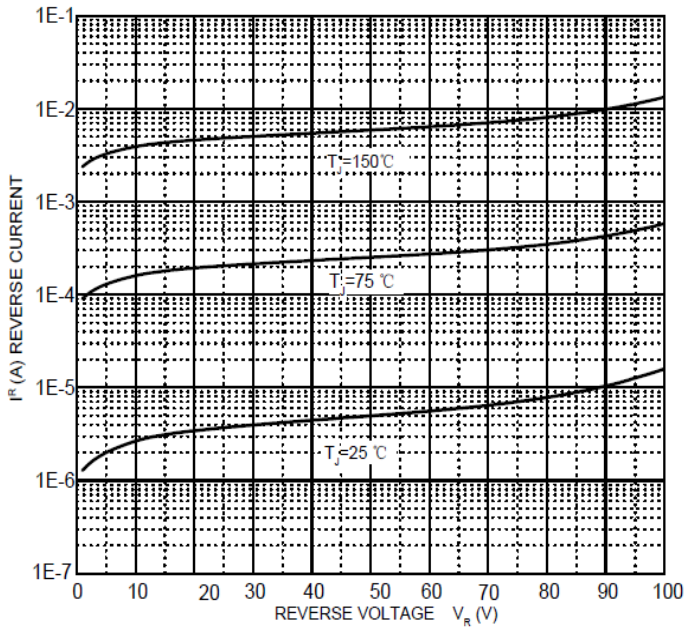
FORWARD CURRENT DERATING CURVE



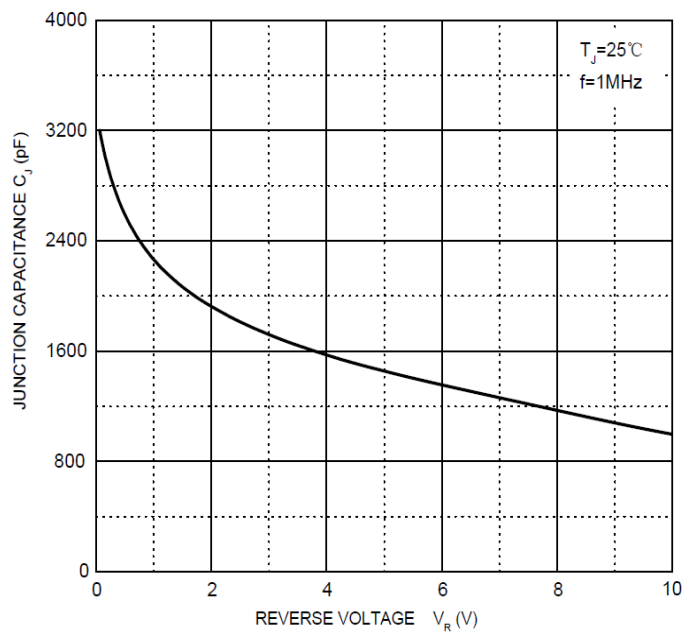
Forward Characteristics



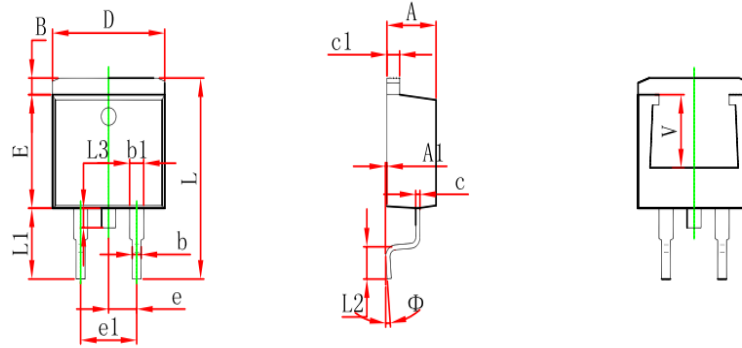
Reverse Characteristics



Capacitance Characteristics Per Diode

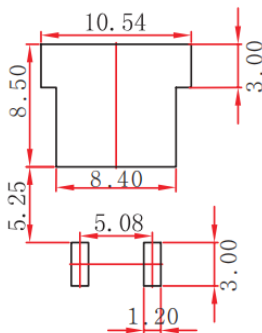


TO-263-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220 REF.	

TO-263-2L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: 0.5mm.
3. The pad layout is for reference purposes only.

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Date of change	Rev #	revise content
2022/11/15	A/0	/