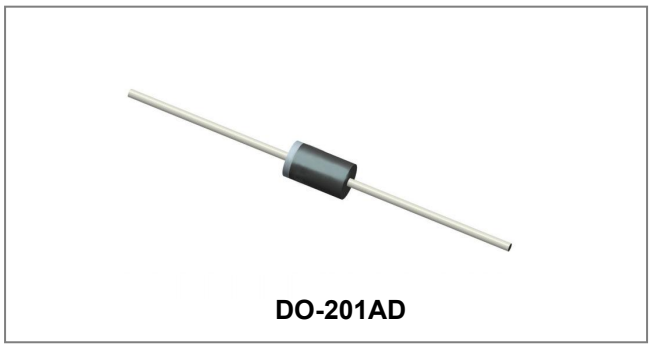
Technical Data
Data Sheet N0691, Rev. A

31DQ05/31DQ06 SCHOTTKY RECTIFIER



DO-201AD

Features

- Low profile, axial leaded outline
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Very Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram

Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	50(31DQ05) 60(31DQ06)	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =40°C, rectangular wave form On PC board 9mm² island	3.3	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse, T_C = 25 °C	66	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 3A, Pulse, T_J = 25 °C @ 6 A, Pulse, T_J = 25 °C	0.55 0.65	0.62 0.78	V
	V_{F2}	@ 3 A, Pulse, T_J = 125 °C @ 6 A, Pulse, T_J = 125 °C	0.48 0.60	0.54 0.65	V
Reverse Current*	I_{R1}	@V_R = Rated V_R, Pulse, T_J = 25 °C	0.03	2	mA
	I_{R2}	@V_R = Rated V_R, Pulse, T_J = 125 °C	13	20	mA
Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	130	160	PF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	9.0	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/µs

* Pulse width < 300 µs, duty cycle < 2%

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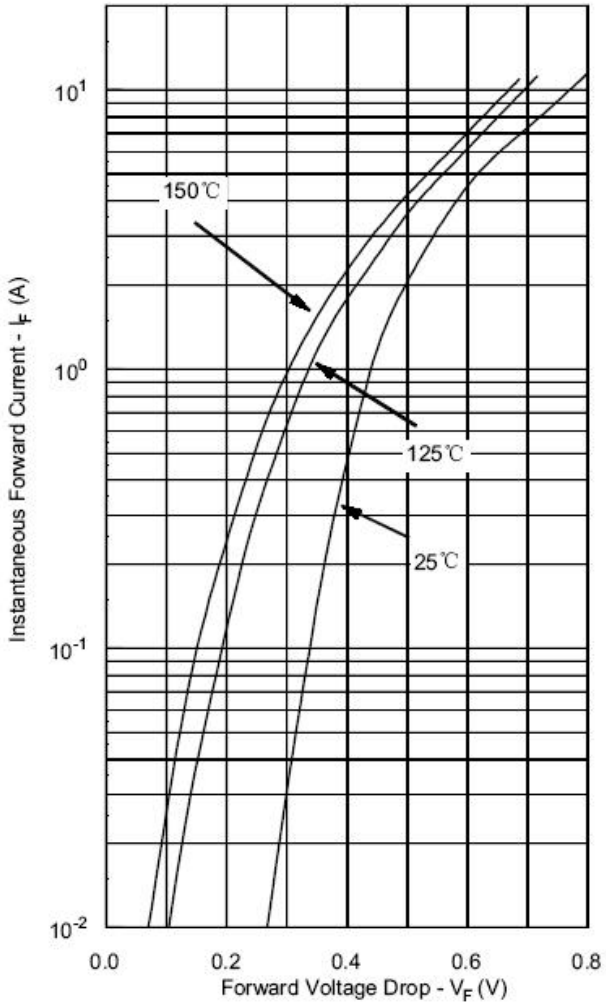
RoHS

Thermal-Mechanical Specifications:

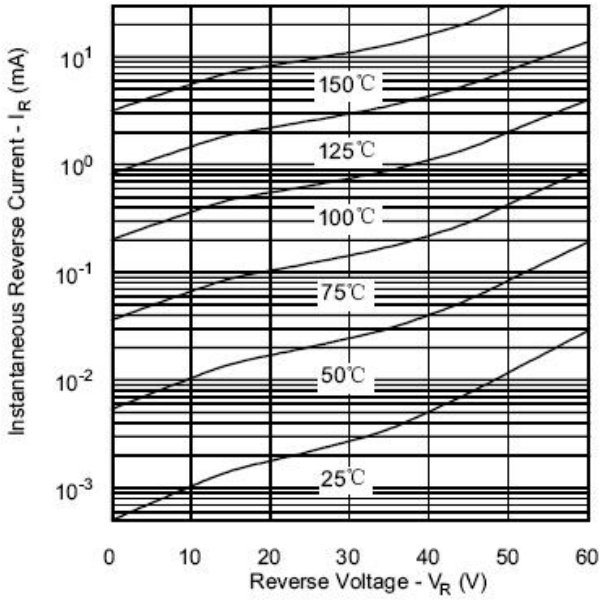
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-40 to +150	°C
Storage Temperature	T_{stg}	-	-40 to +150	°C
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	-	80	°C/W
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	-	34	°C/W
Approximate Weight	wt	-	1.02	g

Ratings and Characteristics Curves

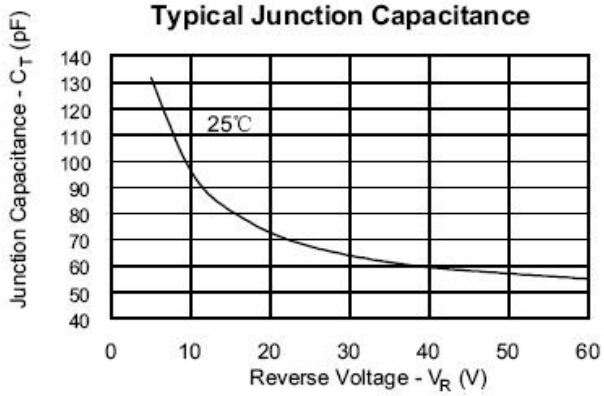
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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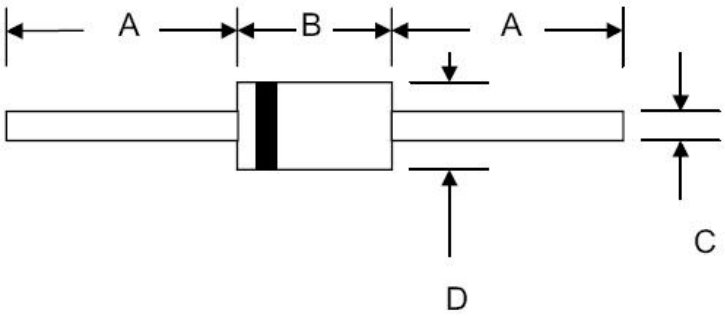
Mechanical Dimensions DO-201AD



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	8.50	9.50	0.335	0.374
C	1.2	1.3	0.048	0.052
D	5.0	5.6	0.197	0.220

Ordering Information

Device	Package	Shipping
31DQ05(6)	DO-201AD (Pb-Free)	1250pcs /Tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

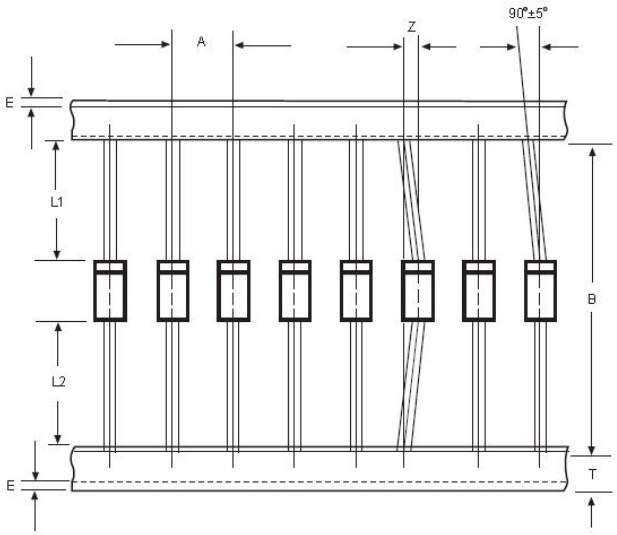
Marking Diagram

Where XXXXX is YYWWL

31DQ05 = Part Name
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape Specification DO-201AD



SYMBOL	Millimeters	
	Min.	Max.
A	9.50	10.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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