



ELECTRICAL SPECIFICATIONS						
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS	
Maximum forward voltage drop See fig. 1	$V_{FM}^{(1)}$	3 A	$T_J = 25\text{ }^{\circ}\text{C}$	0.62	V	
		6 A		0.78		
		3 A	$T_J = 125\text{ }^{\circ}\text{C}$	0.54		0.65
		6 A				
Maximum reverse leakage current See fig. 4	$I_{RM}^{(1)}$	$T_J = 25\text{ }^{\circ}\text{C}$	$V_R = \text{Rated } V_R$	2	mA	
		$T_J = 125\text{ }^{\circ}\text{C}$		15		
Typical junction capacitance	C_T	$V_R = 5\text{ }V_{DC}$ (test signal range 100 kHz to 1 MHz) $25\text{ }^{\circ}\text{C}$		160	pF	
Typical series inductance	L_S	Measured lead to lead 5 mm from package body		9.0	nH	
Maximum voltage rate of charge	dV/dt	Rated V_R		10 000	V/μs	

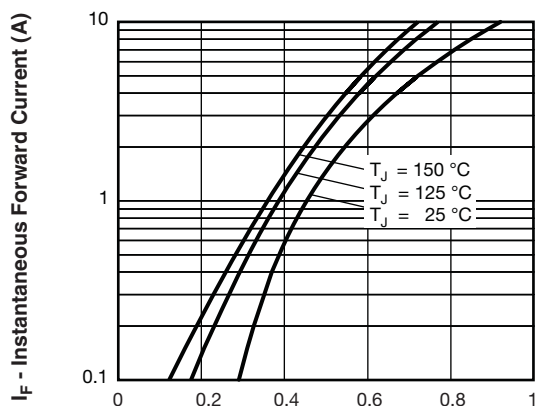
Note

(1) Pulse width < 300 μ s, duty cycle < 2 %

THERMAL - MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction and storage temperature range	T _J ⁽¹⁾ , T _{Stg}		- 40 to 150	°C
Maximum thermal resistance, junction to ambient	R _{thJA}	DC operation Without cooling fin	80	°C/W
Typical thermal resistance, junction to lead	R _{thJL}	DC operation	15	
Approximate weight			1.2	g
			0.042	oz.
Marking device		Case style C-16	31DQ05	
			31DQ06	

Note

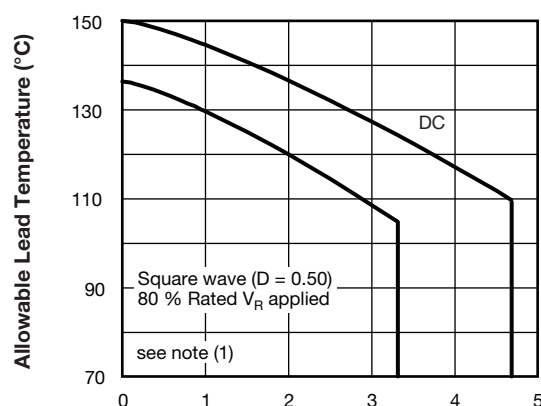
(1) $\frac{dP_{tot}}{dT_J} < \frac{1}{R_{thJA}}$ thermal runaway condition for a diode on its own heatsink



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V_{FM} - Forward Voltage Drop (V)

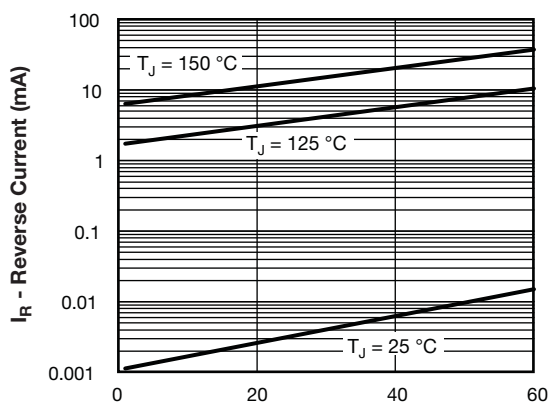
Fig. 1 - Maximum Forward Voltage Drop Characteristics



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I_{F(AV)} - Average Forward Current (A)

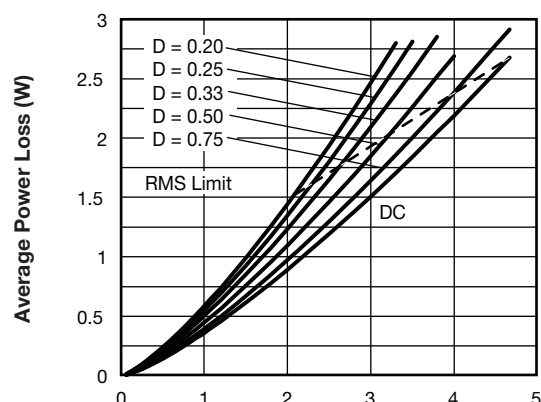
Fig. 4 - Maximum Allowable Lead Temperature vs. Average Forward Current



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V_R - Reverse Voltage (V)

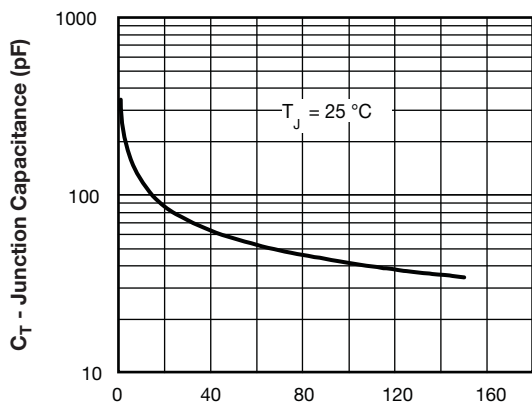
Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage



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Average Forward Current - I_{F(AV)} (A)

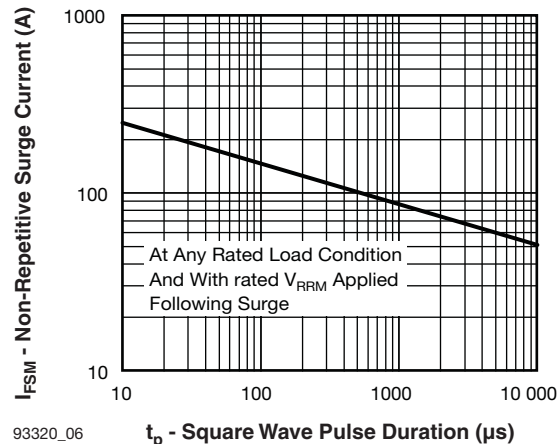
Fig. 5 - Forward Power Loss Characteristics



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V_R - Reverse Voltage (V)

Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage



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t_p - Square Wave Pulse Duration (μs)

Fig. 6 - Maximum Non-Repetitive Surge Current

Note

- (1) Formula used: $T_C = T_J - (P_d + P_{dREV}) \times R_{thJC}$;
 P_d = Forward power loss = $I_{F(AV)} \times V_{FM}$ at $(I_{F(AV)}/D)$ (see fig. 6); P_{dREV} = Inverse power loss = $V_{R1} \times I_R (1 - D)$; I_R at $V_{R1} = 80\%$ rated V_R



ORDERING INFORMATION TABLE

Device code	VS-	31	D	Q	06	TR	-M3
	1	2	3	4	5	6	7

- 1** - Vishay Semiconductors product
- 2** - 31 = Current Rating, 3.3 A
- 3** - D = DO-201 package
- 4** - Q = Schottky Q.. series
- 5** - 06 = Voltage ratings

05 = 50 V
06 = 60 V
- 6** -
 - TR = Tape and reel package
 - None = Bulk package
- 7** - Environmental digit
 - None = Lead (Pb)-free and RoHS compliant
 - -M3 = Halogen-free, RoHS compliant, and terminations lead (Pb)-free

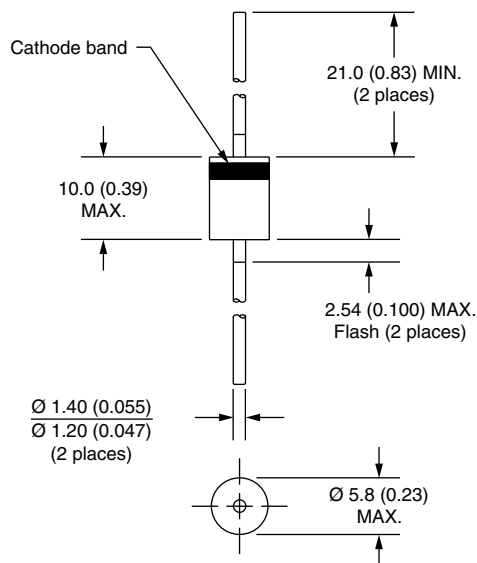
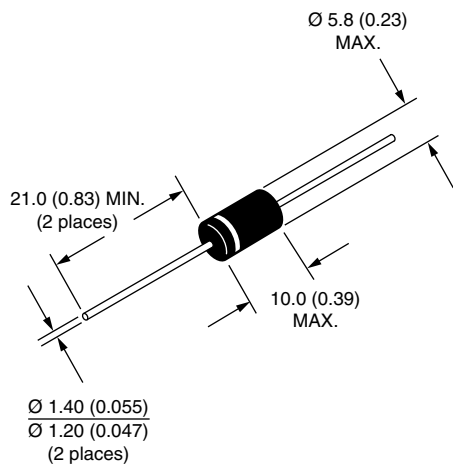
ORDERING INFORMATION (Example)			
PREFERRED P/N	QUANTITY PER T/R	MINIMUM ORDER QUANTITY	PACKAGING DESCRIPTION
VS-31DQ05	500	500	Bulk
VS-31DQ05TR	1200	1200	Tape and reel
VS-31DQ05-M3	500	500	Bulk
VS-31DQ05TR-M3	1200	1200	Tape and reel
VS-31DQ06	500	500	Bulk
VS-31DQ06TR	1200	1200	Tape and reel
VS-31DQ06-M3	500	500	Bulk
VS-31DQ06TR-M3	1200	1200	Tape and reel

LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95242
Part marking information	www.vishay.com/doc?95304
Packaging information	www.vishay.com/doc?95338



Axial DO-201AD (C-16)

DIMENSIONS in millimeters (inches)





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