TAYCHIPST

SCHOTTKY RECTIFIER

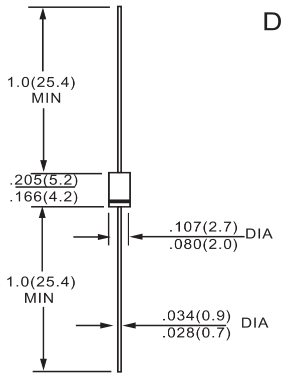
11DQ05 THRU 11DQ06

50V , 60V 1.1A

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

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum Ratings:

Characteristics	Symbol	Condition	Max		Units
Peak Inverse Voltage	V_{RWM}	-	50	(11DQ05)	V
			60	(11DQ06)	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_L = 84 °C, rectangular wave form	1.1		A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	30		A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max	Units
Max. Forward Voltage Drop*	V_{F1}	@1 A, Pulse, T_J = 25 °C @2 A, Pulse, T_J = 25 °C	0.58 0.76	V
	V_{F2}	@1 A, Pulse, T_J = 125 °C @2 A, Pulse, T_J = 125 °C	0.53 0.64	V
Max. Reverse Current *	I_{R1}	@V_R = Rated V_R, Pulse, T_J = 25 °C	1.0	mA
	I_{R2}	@V_R = Rated V_R, Pulse, T_J = 125 °C	11	mA
Max. Junction Capacitance	T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	55	pF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change (Rated V_R)	dv/dt		10,000	V/µs

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Max	Units
Max. Junction Temperature	T_J	-	-40 to +150	°C
Max. Storage Temperature	T_{stg}	-	-40 to +150	°C
Maximum Thermal Resistance Junction to Ambient	$R_{\theta JA}$	DC operation	100	°C/W
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	DC operation	81	°C/W
Approximate Weight	wt	-	0.33	g
Case Style	DO-41(DO-204AL)			

RATINGS AND CHARACTERISTIC CURVES 11DQ05 THRU 11DQ06

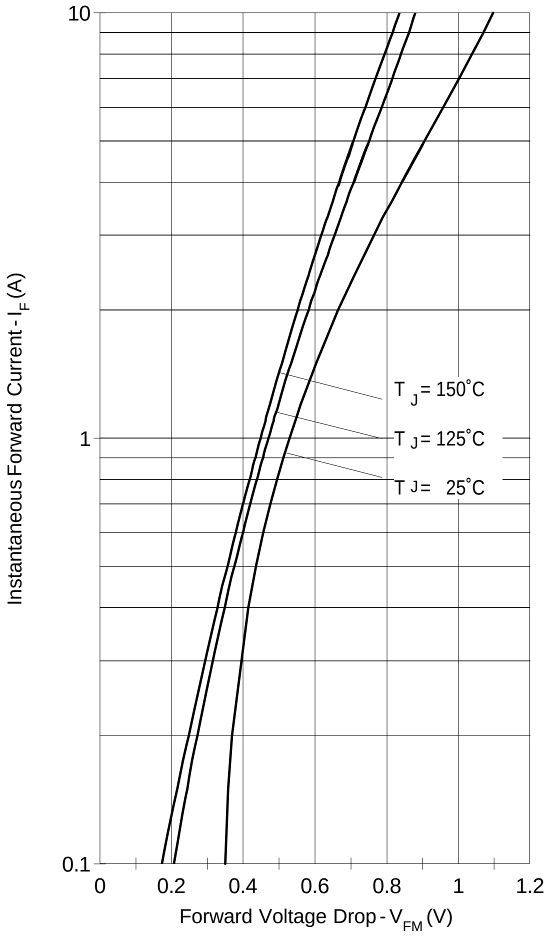


Fig. 1 - Maximum Forward Voltage Drop Characteristics

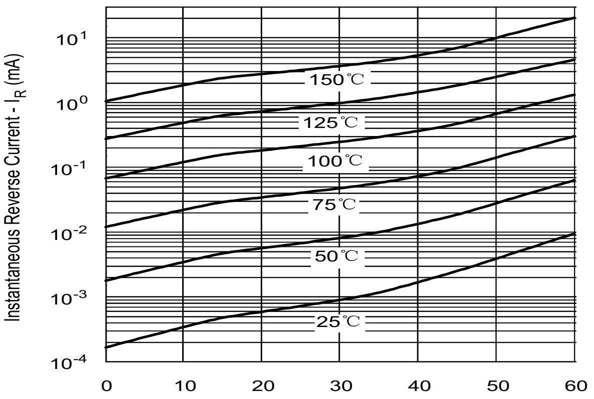


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

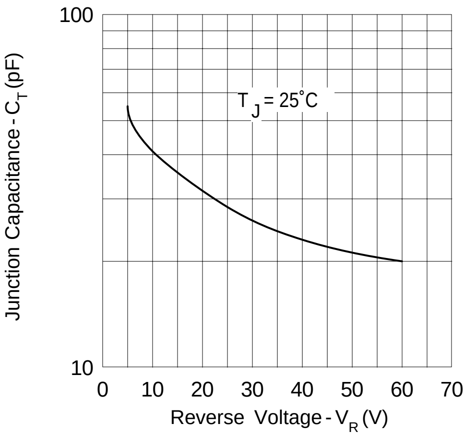


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

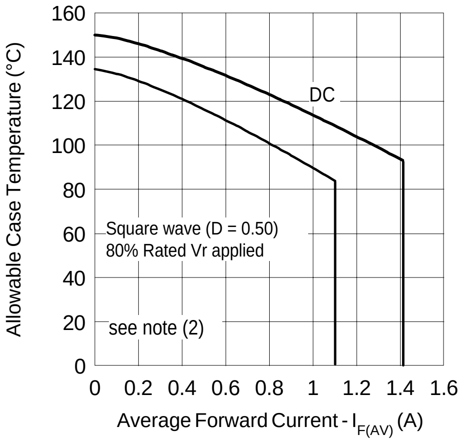


Fig. 4 - Maximum Ambient Temperature Vs. Average Forward Current, Printed Circuit Board Mounted

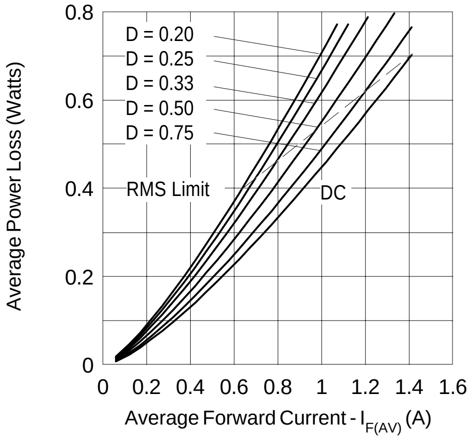


Fig. 5 - Forward Power Loss Characteristics

(2) Formula used: $T_C = T_J - (Pd + Pd_{REV}) \times R_{thJC}$;
Pd = Forward Power Loss = $I_{F(AV)} \times V_{FM}$ @ ($I_{F(AV)}$ / D) (see Fig. 6);
Pd_{REV} = Inverse Power Loss = $V_{R1} \times I_R$ (1 - D); I_R @ V_{R1} = 80% rated V_R