DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

SD51

60A SCHOTTKY RECTIFIERS

FEATURES

- Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding “-PBF” suffix.

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Value	Test Conditions
Working peak reverse voltage	V_{RWM}	35V	
Repetitive peak reverse voltage	V_{RRM}	35V	
Average forward current	$I_{F(AV)}$	60A	T_C = 135°C, square wave, $R_{\Theta JC}$ = 1.0°C/W
Maximum surge current	I_{FSM}	800A	8.3ms, half-sine, T_J = 175°C
Maximum repetitive peak reverse current	$I_{R(OV)}$	2A	f = 1KHz, 25°C, 1µsec square wave
Maximum peak forward voltage	V_{FM}	0.60V	I_{FM} = 60A, T_J = 125°C*
Maximum peak forward voltage	V_{FM}	0.70V	I_{FM} = 60A, T_J = 25°C*
Maximum peak reverse current	I_{RM}	30mA	V_{RRM}, T_J = 125°C*
Maximum peak reverse current	I_{RM}	2mA	V_{RRM}, T_J = 25°C
Typical junction capacitance	C_J	2300pF	V_R = 5.0V, T_J = 25°C

*Pulse test: pulse width 300µsec, duty cycle 2%

THERMAL CHARACTERISTICS

Characteristics	Symbol	Test Conditions
Storage temperature range	T_{stg}	-65° to 175°C
Operating junction temperature range	T_J	-65° to 175°C
Maximum thermal resistance	$R_{\Theta JC}$	1.0°C/W junction to case
Typical thermal resistance (greased)	$R_{\Theta CS}$	0.5°C/W case to sink
Mounting torque		25-30 inch pounds
Weight		0.54 ounce (15.3 grams) typical

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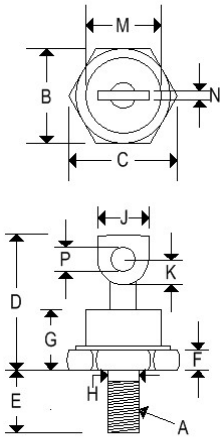
MECHANICAL CHARACTERISTICS

Case	DO-5(R)
Marking	Alpha numeric
Normal polarity	Cathode is stud
Reverse polarity	Anode is stud (add "R" suffix)



	DO-5(R)			
	Inches		Millimeters	
	Min	Max	Min	Max
A	¼-28 UNF2A threads			
B	0.669	0.688	16.990	17.480
C	-	0.794	-	20.160
D	-	1.000	-	25.400
E	0.422	0.453	10.720	11.510
F	0115	0.200	2.920	5.080
G	-	0.450	-	11.430
H	0.220	0.249	5.580	6.320
J	0.250	0.375	6.350	9.530
K	0.156	-	3.960	-
M	-	0.667	-	16.940
N	0.030	0.080	0.760	2.030
P	0.140	0.175	3.560	4.450

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Figure 1
Typical Forward Characteristics

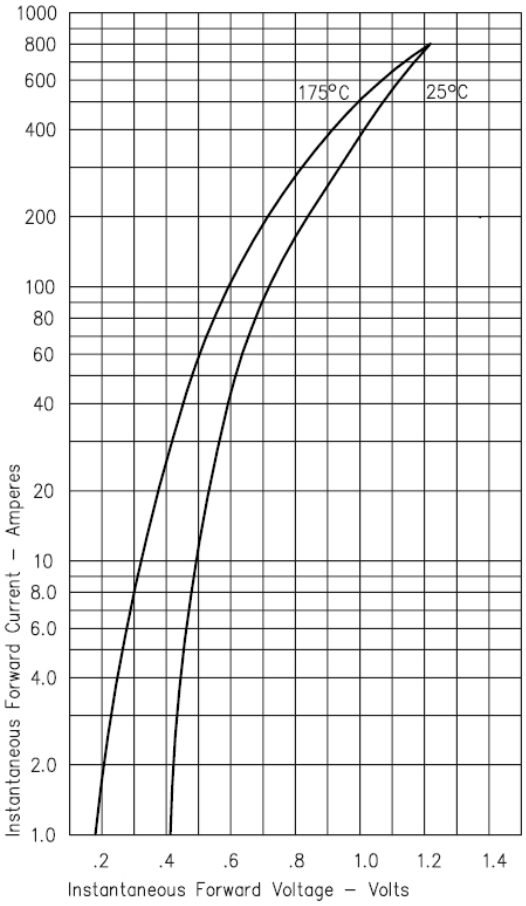

Figure 2
Typical Reverse Characteristics

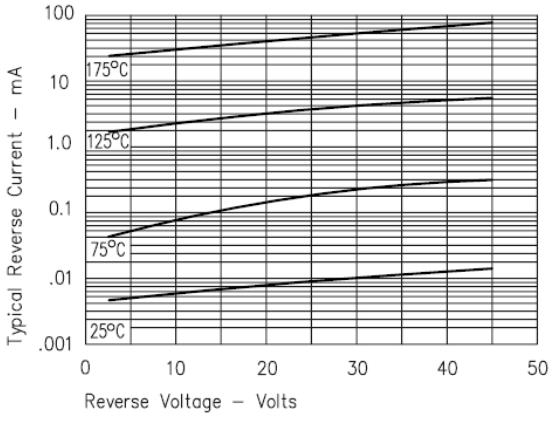

Figure 3
Typical Junction Capacitance

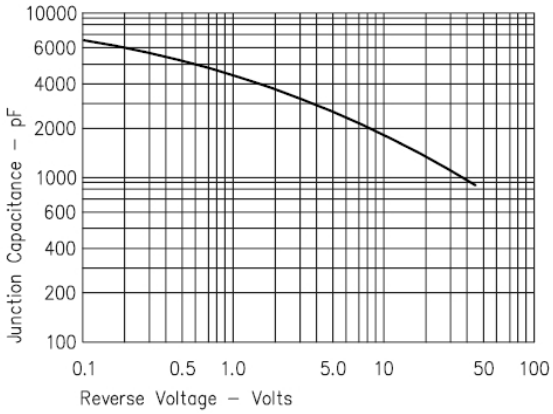

Figure 4
Forward Current Derating

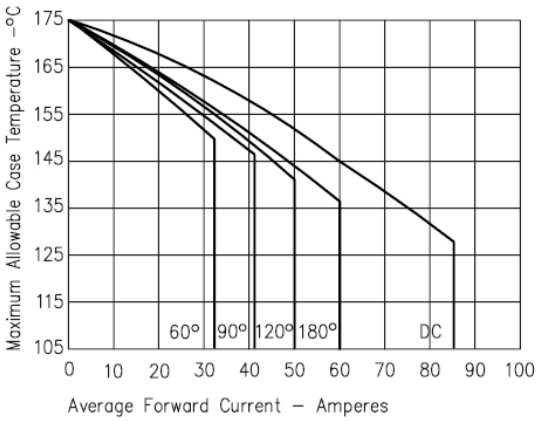

Figure 5
Maximum Forward Power Dissipation