

DIGITRON SEMICONDUCTORS

SD241

30 AMP SCHOTTKY RECTIFIERS

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Value	Test Conditions
Working peak reverse voltage	V_{RWM}	35V	
Repetitive peak reverse voltage	V_{RRM}	35V	
Standard average forward current	$I_{F(AV)}$	30A	$T_C = 148^\circ\text{C}$, square wave, $R_{\theta JC} = 1.4^\circ\text{C/W}$
Reverse average forward current	$I_{F(AV)}$	30A	$T_C = 132^\circ\text{C}$, square wave, $R_{\theta JC} = 2.2^\circ\text{C/W}$
Maximum surge current	I_{FSM}	600A	8.3ms, half-sine, $T_J = 175^\circ\text{C}$
Maximum repetitive peak reverse current	$I_{R(OV)}$	2A	$f = 1\text{KHz}$, 25°C , 1μsec square wave
Maximum peak forward voltage	V_{FM}	0.57V	$I_{FM} = 30\text{A}$, $T_J = 175^\circ\text{C}^*$
Maximum peak forward voltage	V_{FM}	0.70V	$I_{FM} = 30\text{A}$, $T_J = 25^\circ\text{C}^*$
Maximum peak reverse current	I_{RM}	25mA	V_{RRM} , $T_J = 125^\circ\text{C}^*$
Maximum peak reverse current	I_{RM}	1.5mA	V_{RRM} , $T_J = 25^\circ\text{C}$
Typical junction capacitance	C_J	1350pF	$V_R = 5.0\text{V}$, $T_J = 25^\circ\text{C}$

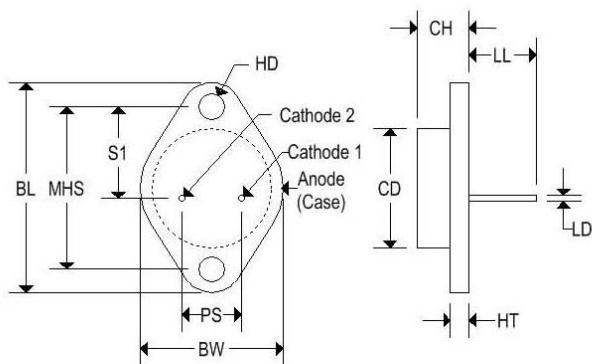
*Pulse test: pulse width 300μsec, duty cycle 2%

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
Standard maximum thermal resistance	$R_{\theta JC}$	1.4°C/W junction to case
Reverse maximum thermal resistance	$R_{\theta JC}$	2.2°C/W junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.5°C/W case to sink

MECHANICAL CHARACTERISTICS

Case	TO-3
Marking	Alpha numeric
Pin out	See below



	TO-3			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.380	6.860	9.650
HT	0.060	0.135	1.520	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

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Figure 1
Typical Forward Characteristics

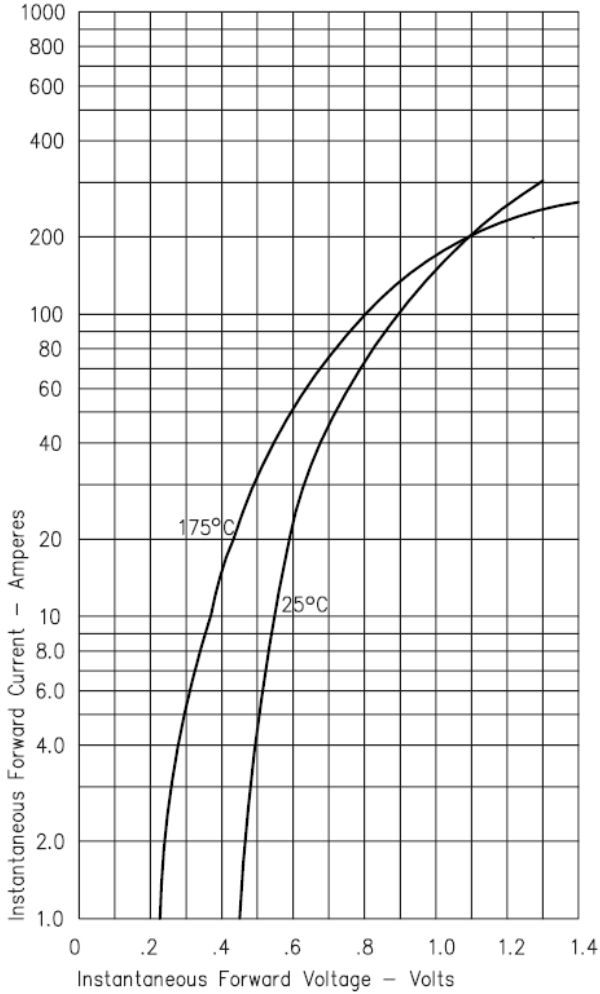


Figure 3
Typical Junction Capacitance

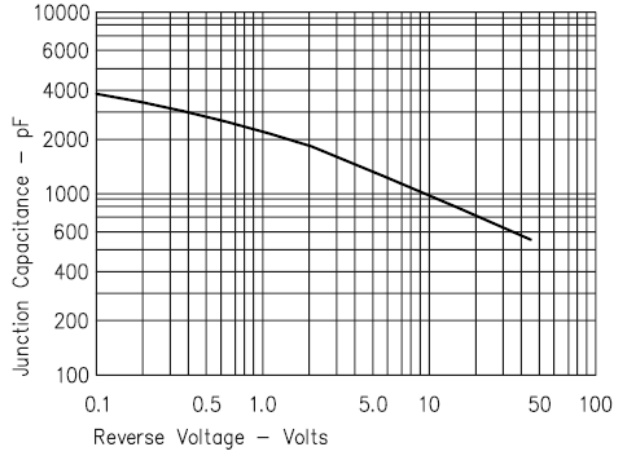


Figure 4
Forward Current Derating - Standard Polarity

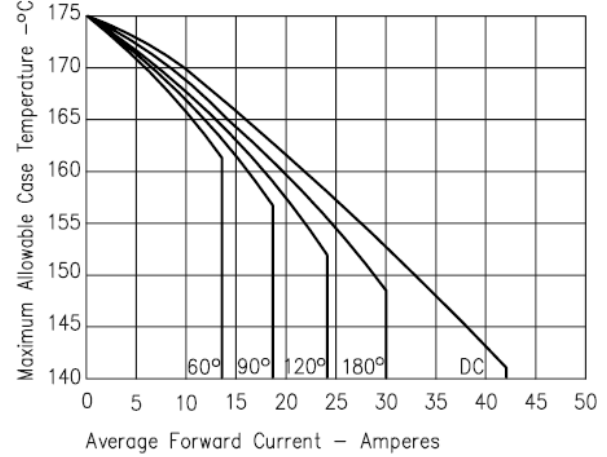


Figure 2
Typical Reverse Characteristics

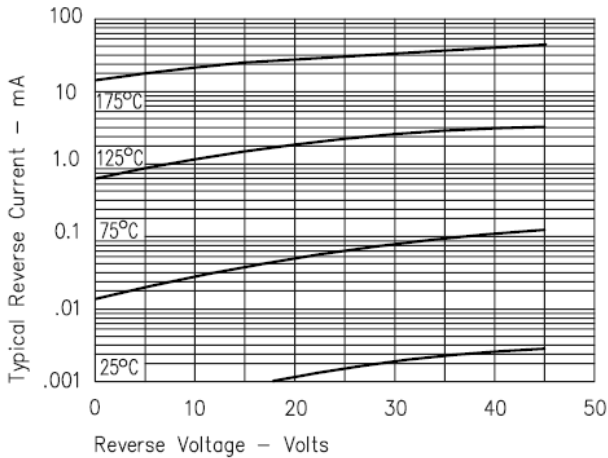


Figure 5
Forward Current Derating - Reverse Polarity

