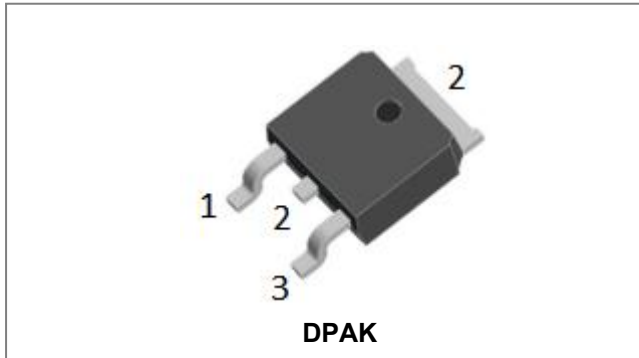


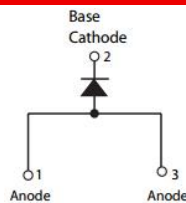
50WQ20FN SCHOTTKY RECTIFIER



Features

- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- 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

- Disk drives
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Battery charging

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V_{RRM}	-	200	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_c=136^\circ\text{C}$, rectangular wave form	5.0	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse, $T_c = 25^\circ\text{C}$	132	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 5A, Pulse, $T_J = 25^\circ\text{C}$	0.8	0.87	V
	V_{F2}	@ 5A, Pulse, $T_J = 125^\circ\text{C}$	0.64	0.73	V
Reverse Current *	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	0.001	1.0	mA
	I_{R2}	@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	0.1	4.0	mA
Junction Capacitance	C_T	@ $V_R = 5\text{V}, T_c = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	125	150	pF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	5.0	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/ μs

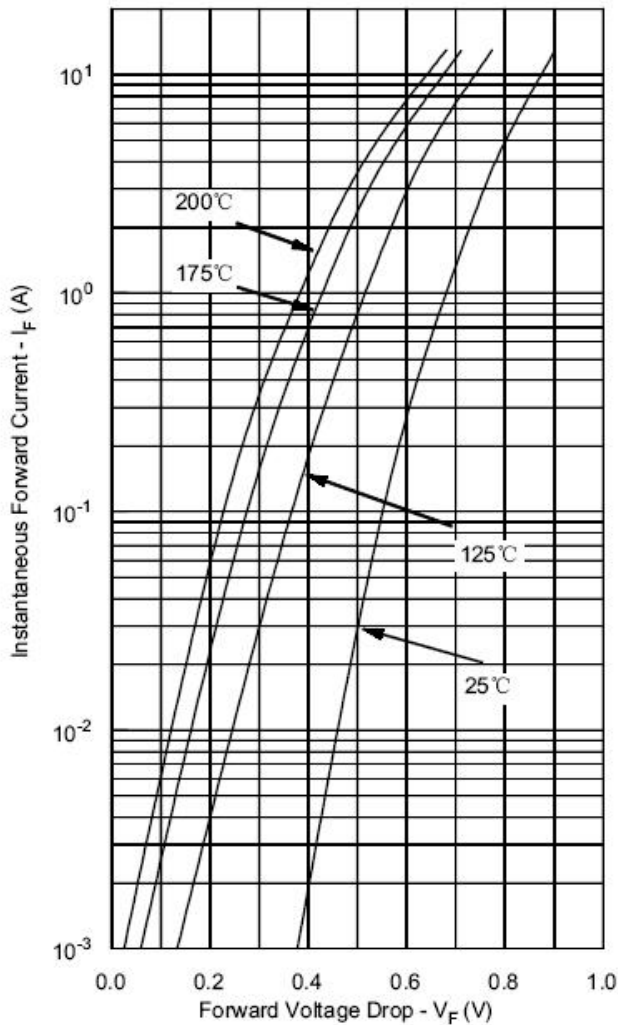
* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

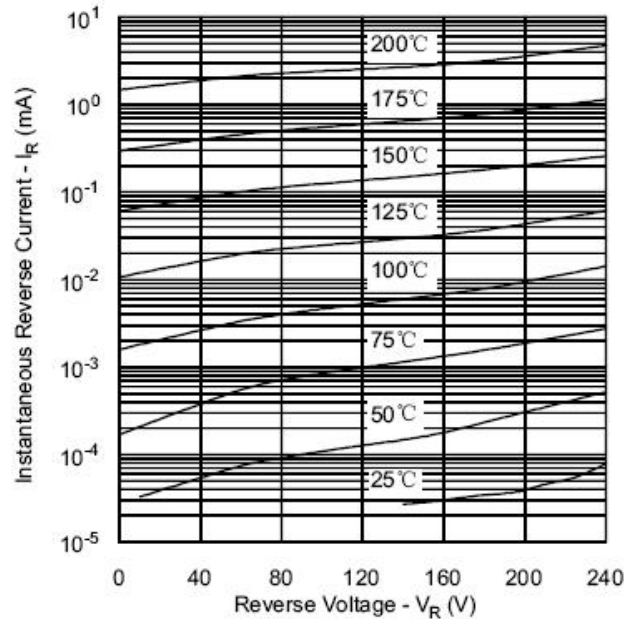
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	-	3.0	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	0.39	g
Case Style	DPAK			

Ratings and Characteristics Curves

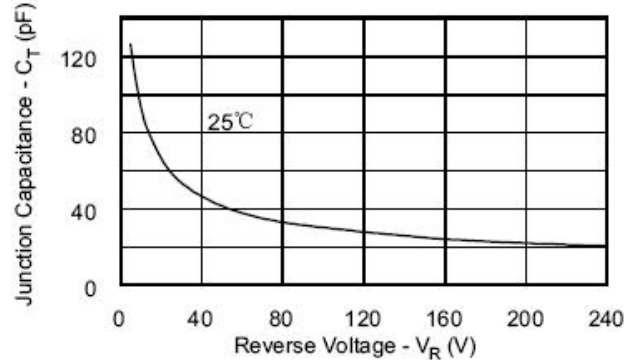
Typical Forward Characteristics



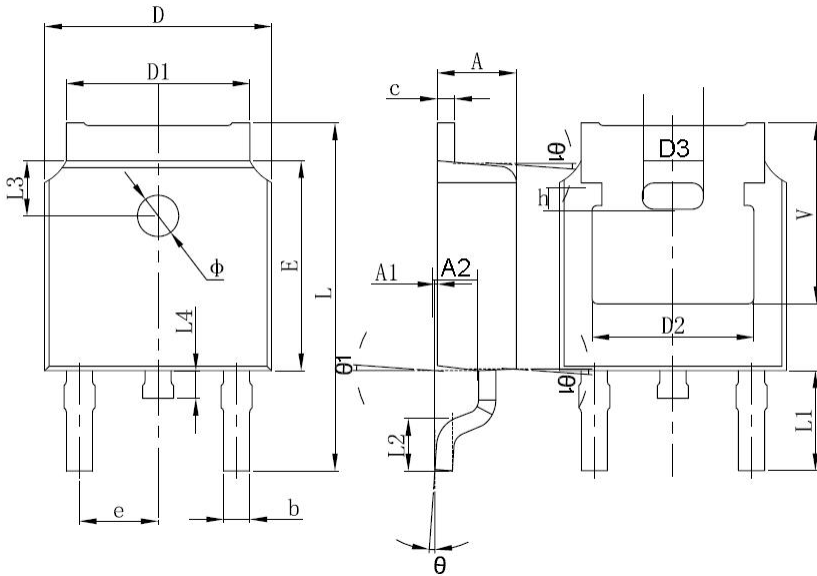
Typical Reverse Characteristics



Typical Junction Capacitance



Mechanical Dimensions DPAK



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.40	0.087	0.094
A1	0.00	0.127	0.000	0.005
b	0.66	0.86	0.026	0.034
c	0.46	0.60	0.018	0.024
D	6.50	6.70	0.256	0.264
D1	5.13	5.46	0.202	0.215
D2	4.83 REF.		0.190 REF.	
E	6.00	6.20	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.70	10.40	0.381	0.409
L1	2.90 REF.		0.144 REF.	
L2	1.40	1.70	0.055	0.067
L3	1.60 REF.		0.063 REF.	
L4	0.60	1.00	0.024	0.039
Φ	1.10	1.30	0.043	0.051
Θ	0°	8°	0°	8°
h	0.00	0.30	0.000	0.012
V	5.35 REF.		0.211 REF.	

Ordering Information

Device	Package	Shipping
50WQ20FN	DPAK (Pb-Free)	2500pcs / reel

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

Marking Diagram

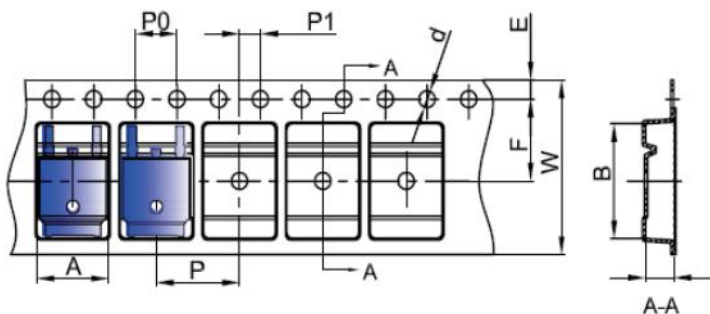


Where XXXXX is YYWWL

- 50 = Forward Current (5A)
- W = Configuration
- Q = Device Type
- 20 = Reverse Voltage (200V)
- FN = Package type
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

Carrier Tape & Reel Specification DPAK



SYMBOL	Millimeters	
	Min.	Max.
A	6.80	7.00
B	10.40	10.60
C	2.60	2.80
d	Φ1.45	Φ1.65
E	1.65	1.85
F	7.40	7.60
P0	3.90	4.10
P	7.90	8.10
P1	1.90	2.10
W	15.90	16.30

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