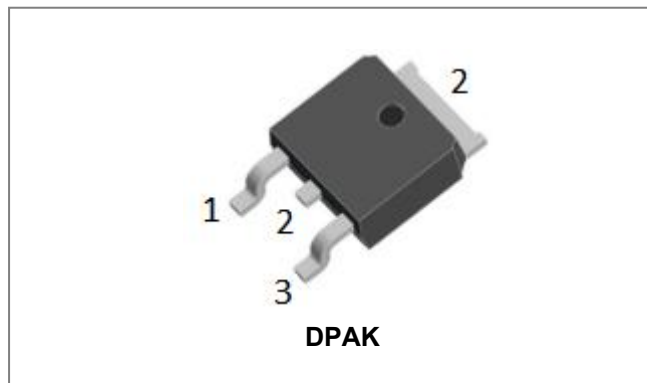


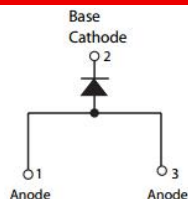
50WQ03FN SCHOTTKY RECTIFIER



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
- “-A” is an AEC-Q101 qualified device
- Terminals finish: Tin Lead-free plated
- 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@T_c=25°C unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	-	30	V
Average Rectified Forward Current	I _{F (AV)}	50% duty cycle @T _c =136°C, rectangular wave form	5.5	A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3ms, Half Sine pulse	156	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V _{F1}	@ 5A, Pulse, T _J = 25 °C	0.42	0.46	V
		@ 10A, Pulse, T _J = 25 °C	0.48	0.53	
	V _{F2}	@ 5 A, Pulse, T _J = 125 °C	0.31	0.35	V
		@ 10A, Pulse, T _J = 125 °C	0.39	0.46	
Reverse Current *	I _{R1}	@V _R = rated V _R , T _J = 25 °C	0.08	3.0	mA
	I _{R2}	@V _R = rated V _R , T _J = 125 °C	29	58	mA
Junction Capacitance	C _T	@V _R = 5V, T _c = 25 °C f _{SIG} = 1MHz	366	590	pF

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	-	3	°C/W
Approximate Weight	wt	-	0.39	g
Case Style	DPAK			

Ratings and Characteristics Curves

Figure1 Typical Forward Characteristics

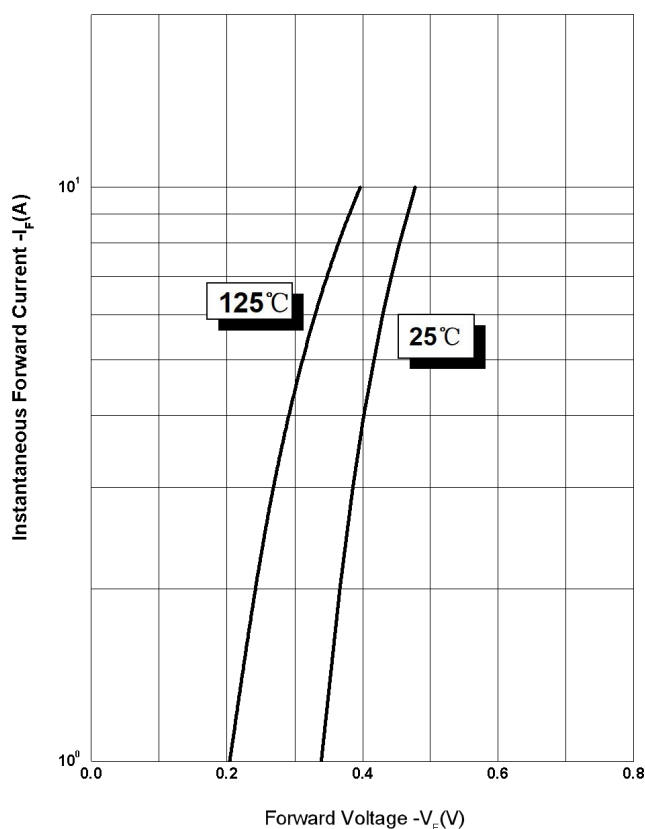


Figure 2 Typical Reverse Characteristics

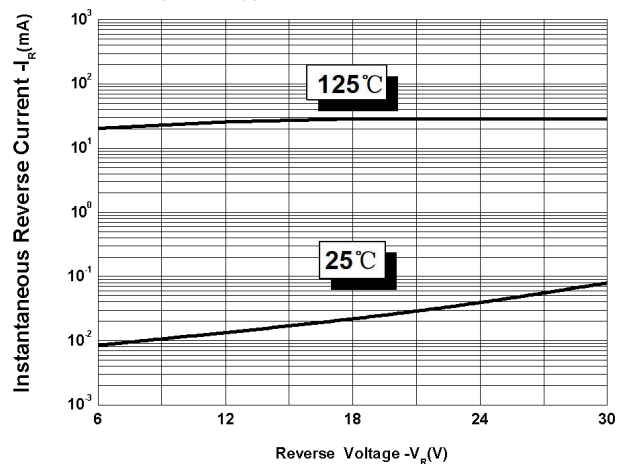
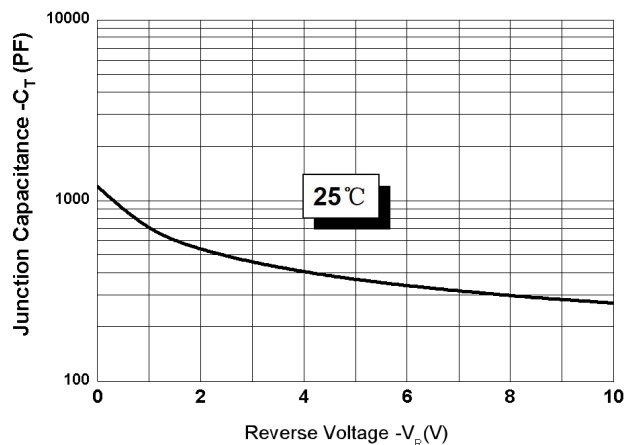
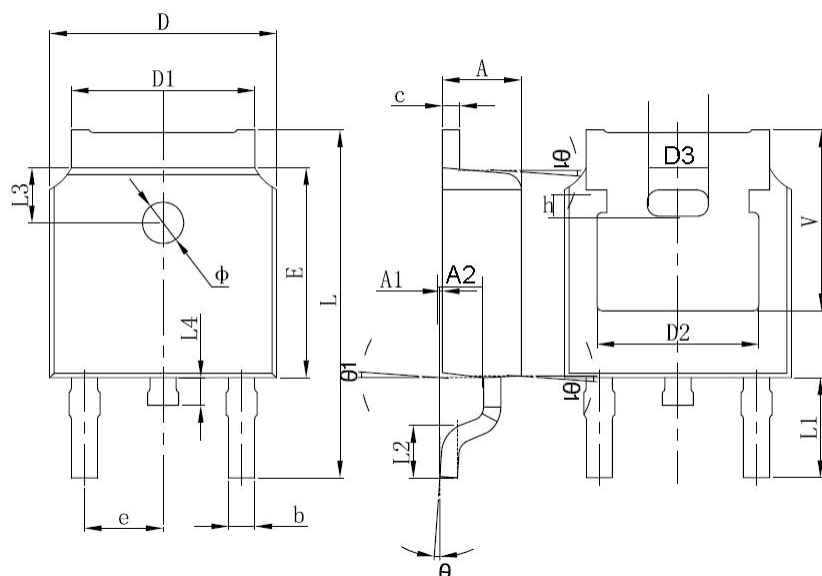


Figure 3 Typical Junction Capacitance



Mechanical Dimensions DPAK


The outline from different package houses may have slight differences. So the outline above is just schematic. The dimensions are controlled per specifications.

Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	2.18	-	2.39
A1	-	-	0.13
b	0.64	-	0.89
c	0.46	-	0.89
D	6.35	-	6.73
D1	4.95	-	5.46
D2	4.32	-	-
E	5.97	6.1	6.22
e	2.29BSC		
L	9.4	-	10.41
L1	2.90 REF.		
L2	1.4	1.52	1.78
L3	1.60 REF.		
L4	-	-	1.02
Φ	1.1	-	1.3
Θ	0°	-	10°
V	5.21	-	-

Ordering Information

Device	Package	Shipping
50WQ03FN	DPAK (Pb-Free)	2500pcs / reel
50WQ03FNTR	DPAK (Pb-Free)	2500pcs / reel

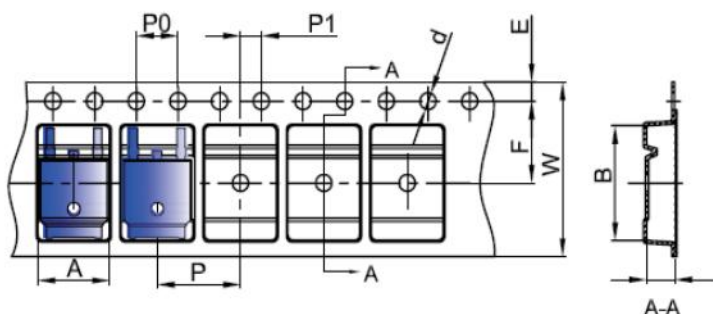
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram


Where XXXXX is YYWWL

50 = Forward Current (5A)
 W = Configuration
 Q = Device Type
 03 = Reverse Voltage (30V)
 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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