



DO-204



**FEATURES**

- Low forward voltage drop
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Designed and qualified for commercial level

PRODUCT SUMMARY	
Package	DO-204
$I_{F(AV)}$	5 A
$V_R$	60 V, 80 V, 100 V
$V_F$ at $I_F$	0.52 V
$I_{RM}$ max.	7.0 mA at 125 °C
$T_J$ max.	175 °C

**DESCRIPTION**

The AMS-50SQ... axially-leaded Schottky rectifier series has been optimized for low reverse leakage at high temperature.

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

MAJOR RATINGS AND CHARACTERISTICS			
SYMBOL	CHARACTERISTICS	VALUES	UNITS
$I_{F(AV)}$	Rectangular waveform	5	A
$V_{RRM}$	Range	60 to 100	V
$I_{FSM}$	$t_p = 5 \mu s$ sine	1900	A
$V_F$	5 Apk, $T_J = 125 \text{ }^\circ\text{C}$	0.52	V
$T_J$	Range	- 55 to 175	°C

VOLTAGE RATINGS					
PARAMETER	SYMBOL	AMS-50SQ060	AMS-50SQ080	AMS-50SQ100	UNITS
Maximum DC reverse voltage	$V_R$	60	80	100	V
Maximum working peak reverse voltage	$V_{RWM}$				

ABSOLUTE MAXIMUM RATINGS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum average forward current See fig. 5	$I_{F(AV)}$	50 % duty cycle at $T_c = 119 \text{ }^\circ\text{C}$ , rectangular waveform		5	A
Maximum peak one cycle non-repetitive surge current	$I_{FSM}$	5 $\mu s$ sine or 3 $\mu s$ rect. pulse	Following any rated load condition and with rated $V_{RRM}$ applied	1900	
		10 ms sine or 6 ms rect. pulse		290	
Repetitive avalanche current	$I_{AR}$	Current decaying linearly to zero in 1 $\mu s$ Frequency limited by, $T_J$ maximum $V_A = 1.5 \times V_R$ typical		1.0	A



ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop	$V_{FM}$	5 A	$T_J = 25\text{ }^\circ\text{C}$	0.66	V
		10 A		0.77	
		5 A	$T_J = 125\text{ }^\circ\text{C}$	0.52	
		10 A		0.62	
Maximum reverse leakage current	$I_{RM}$	$T_J = 25\text{ }^\circ\text{C}$	$V_R = \text{Rated } V_R$	0.55	mA
		$T_J = 125\text{ }^\circ\text{C}$		7	
Maximum junction capacitance	$C_T$	$V_R = 5\text{ V}_{DC}$ , (test signal range 100 kHz to 1 MHz), $25\text{ }^\circ\text{C}$		500	pF
Maximum voltage rate of change	dV/dt	Rated $V_R$		10 000	V/ $\mu$ s

THERMAL - MECHANICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum junction and storage temperature range	$T_J, T_{Stg}$			- 55 to 175	$^\circ\text{C}$
Maximum thermal resistance, junction to lead	$R_{thL}$	DC operation; 1/8" lead length		8.0	$^\circ\text{C/W}$
Typical thermal resistance, junction to air	$R_{thJA}$			44	
Approximate weight				1.4	g
				0.049	oz.
Marking device		Case style DO-204		SQ060	
				SQ080	
				SQ100	

## Axial DO-204

DIMENSIONS in millimeters (inches)

