

50A, 45V High Current Button Rectifier

FEATURES

- Low forward voltage drop, high efficiency
- T_J=175°C capability in DC forward mode suitable for high reliability and auto motive requirements
- Using Planar SKY barrier chip
- High surge capability
- Low cost construction utilizing void-free molded plastic technique
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC

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ARS



Case: ARS

MECHANICAL DATA

Molding compound: UL flammability classification rating 94V-0 Part no. with suffix "H" means AEC-Q101 qualified **Terminal:** Matte tin plated leads, solderable per JESD22-B102 Meet JESD 201 class 2 whisker test **Weight:** 1.73 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)					
PARAMETER	SYMBOL	ARS5045	UNIT		
Maximum repetitive peak reverse voltage	V _{RRM}	45	V		
Maximum RMS voltage	V _{RMS}	32	V		
Maximum DC blocking voltage	V _{DC}	45	V		
Maximum average forward rectified current	I _{F(AV)}	50	Α		
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	720	А		
Maximum instantaneous forward voltage (Note 1) @ 50 A	V _F	0.55	V		
Maximum reverse current @ Rated V _R	I _R	500	μA		
Typical reverse recovery time (Note 2)	t _{rr}	150	ns		
Typical junction capacitance (Note 3)	CJ	2.7	nF		
Typical thermal resistance	$R_{ extsf{ heta}JL}$	2.5	°C/W		
Junction temperature range - in DC forward mode	TJ	- 55 to +175	°C		
Storage temperature range	T _{STG}	- 55 to +175	°C		

Note 1: Pulse test with PW=300µs, 1% duty cycle

Note 2: Test conditions: I_F =0.5A, I_R =1.0A, I_{RR} =0.25A

Note 3: Measured at 1 MHz and applied reverse voltage of 4.0V DC.



Taiwan Semiconductor

ORDERING INFORMATION						
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKAGE	PACKING		
ARS5045	Н	B0	ARS	1,000 / Bulk packing		

EXAMPLE						
EXAMPLE	PART NO.	PART NO.	PART NO. PACKING CODE	DESCRIPTION		
PART NO.		SUFFIX				
ARS5045HB0	ARS5045	н	В0	AEC-Q101 qualified		

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

1000







FIG. 2 TYPICAL REVERSE CHARACTERISTICS









NUMBER OF CYCLES AT 60 Hz

Version: B1603





PACKAGE OUTLINE DIMENSIONS



DIM.	Unit	(mm)	Unit (inch)		
	Min	Max	Min	Max	
А	5.50	5.70	0.217	0.224	
В	8.30	8.90	0.327	0.350	
С	6.00	6.40	0.236	0.252	
D	4.20	4.70	0.165	0.185	



MARKING DIAGRAM



S45 Date Code Factory Code



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