

ULTRA FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 1000 V
CURRENT: 5.0A

Features

- Ultrafast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 260°C max. 10 s, per JESD 22-B106

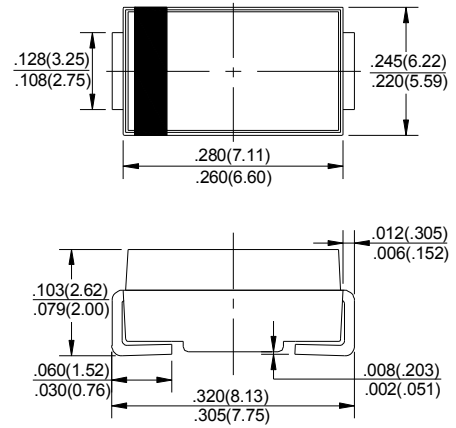
Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

Mechanical Data

- Package: DO-214AB (SMC)
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes the cathode end

SMC



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	US5A	US5B	US5D	US5F	US5G	US5J	US5K	US5M
Device marking code			US5A	US5B	US5D	US5F	US5G	US5J	US5K	US5M
Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	300	400	600	800	1000
Average Rectified Output Current @60Hz sine wave, Resistance load, Ta (FIG.1)	I_O	A	5.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Ta=25°C	I_{FSM}	A	150							
Storage Temperature	T_{stg}	°C	-55 ~ +150							
Junction Temperature	T_j	°C	-55 ~ +150							

Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	US5A	US5B	US5D	US5F	US5G	US5J	US5K	US5M
Maximum instantaneous forward voltage drop per diode	V_F	V	$I_{FM}=5.0A$	1.0			1.3		1.7		
Maximum reverse recovery time	T_{RR}	ns	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	50					75		
Maximum DC reverse current at rated DC blocking voltage per diode	I_R	μA	Ta=25°C	10							
			Ta=100°C	200							
Typical junction capacitance	C_j	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C.	85					60		

■ Thermal Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	US5A	US5B	US5D	US5G	US5J	US5K	US5M
Thermal Resistance	Junction to ambient	$R_{\theta J-A}$	°C/W	47 ⁽¹⁾						
	Junction to lead	$R_{\theta J-L}$		13 ⁽¹⁾						

Note(1)

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

■ Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS5A~HS5M	F1	Approximate 0.254	3000	6000	42000	13" reel

Diagram of circuit and Testing wave form of reverse recovery time

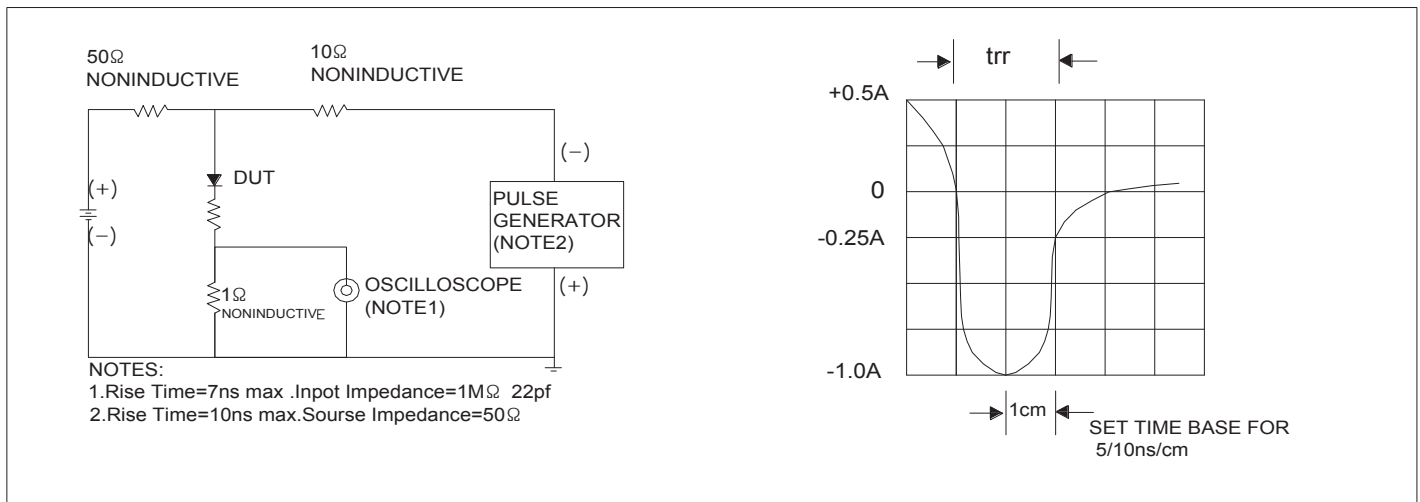


FIG.1: I_o -TL Curve

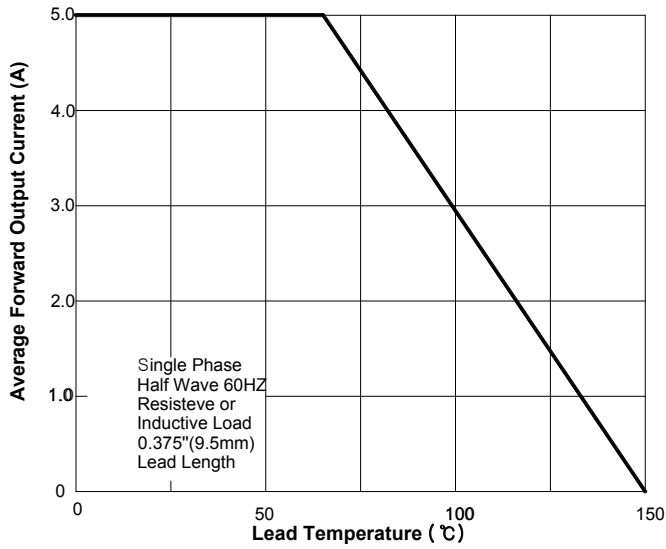


FIG.2: Forward Surge Current Capability

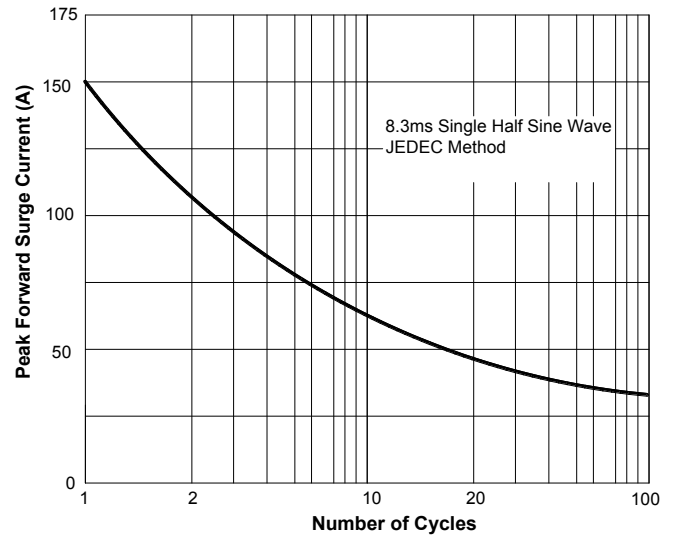


FIG.3: Forward Voltage

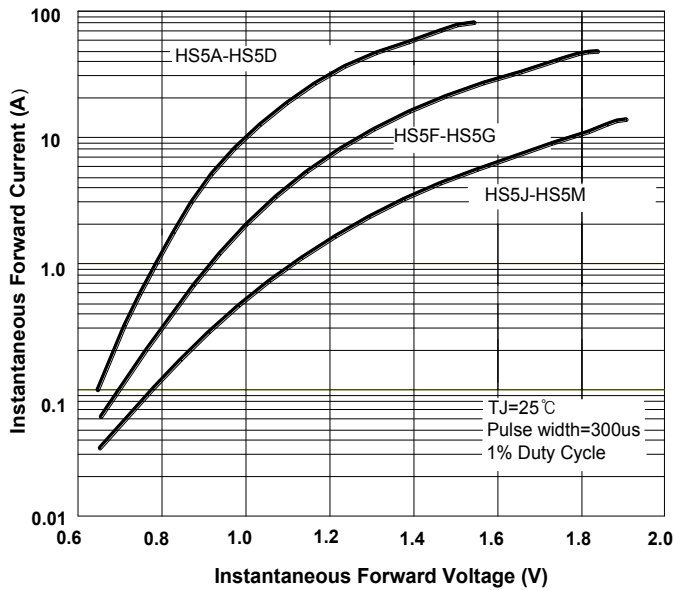


FIG.4: Typical Reverse Characteristics

