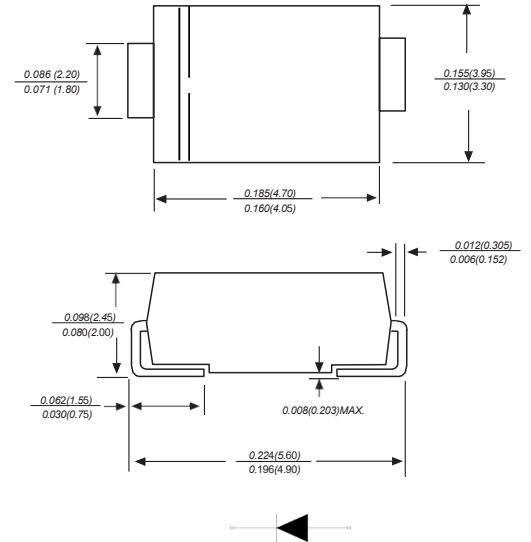


SURFACE MOUNT ULTRA FAST RECTIFIER

Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Ultra fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed
250 °C/10 seconds at terminals

DO-214AA/SMB



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

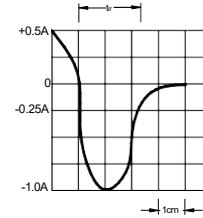
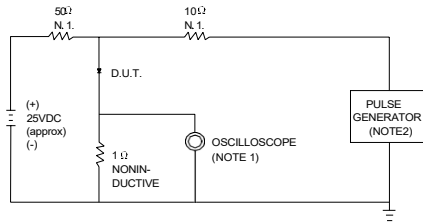
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	SYMBOLS	US5AB	US5BB	US5DB	US5GB	US5JB	US5KB	US5MB	UNITS
Marking Code									
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at TL=55°C	I _(AV)	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	100							A
Maximum instantaneous forward voltage at 5.0A	V _F	1.0			1.40	1.7			V
Maximum DC reverse current TA=25°C at rated DC blocking voltage TA=125°C	I _R	5.0 300.0							µA
Maximum reverse recovery time (NOTE 1)	t _{rr}	50				75			ns
Typical junction capacitance (NOTE 2)	C _J	15.0				12.0			pF
Typical thermal resistance (NOTE 3)	RθJA	15.0							°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150							°C

Note: 1. Reverse recovery condition $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_{rr}=0.25\text{A}$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

Ratings And Characteristic Curves

FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ . 22pF.
2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50Ω .

SET TIME BASE FOR 20/30 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

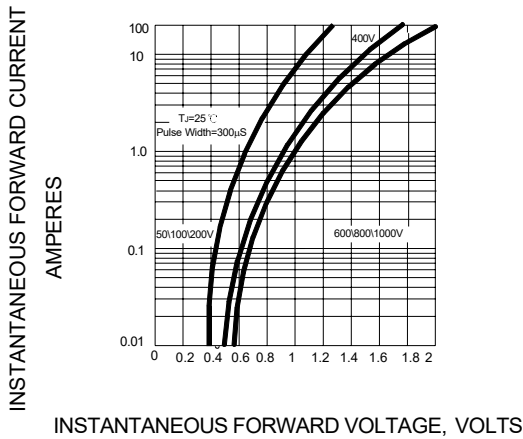


FIG.3 -- FORWARD DERATING CURVE

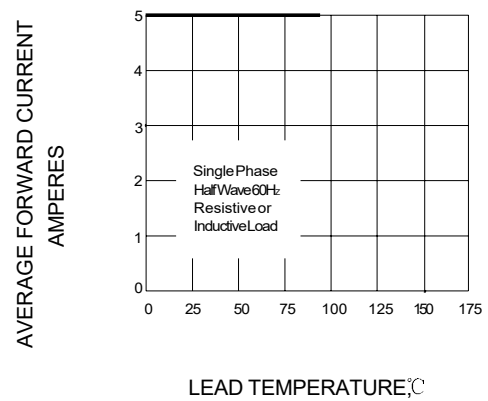


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

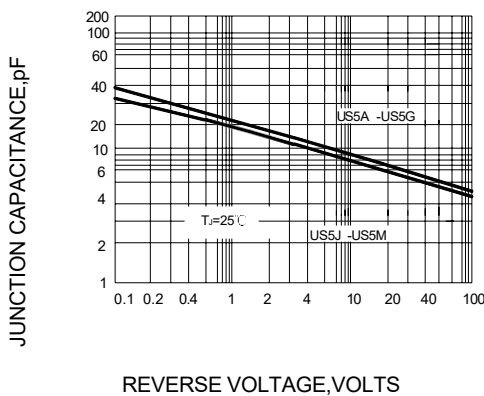
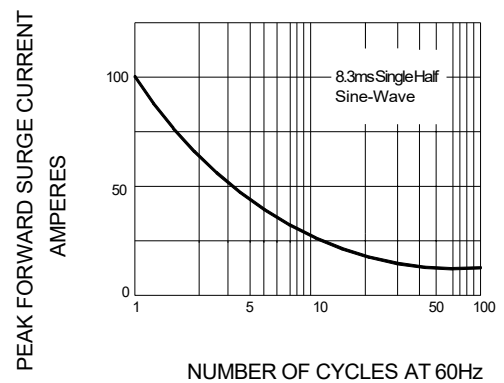


FIG.5 -- PEAK FORWARD SURGE CURRENT



The curve above is for reference only.