

**FRONTIER
ELECTRONICS CO., LTD.**

**US3A
THRU
US3M**

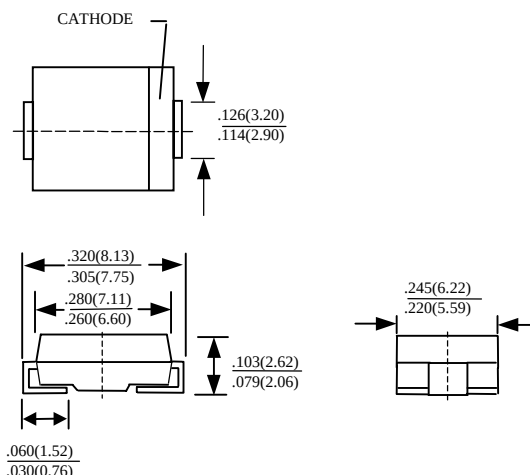
3A ULTRA FAST RECOVERY SURFACE MOUNT RECTIFIER

FEATURES

- LOW PROFILE PACKAGE
- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY 94V-0
- IDEAL FOR SURFACE MOUNTED APPLICATION
- GLASS PASSIVATED CHIP JUNCTI
- BUILT-IN STRAIN RELIEF DESIGN
- ULTRA FAST RECOVERY TIME FOR HIGH EFFICIENT
- HIGH TEMPERATURE SOLDERING : 250°C/10 SECONDS AT TERMINALS

MECHANICAL DATA

- CASE : JEDEC DO-214AA MOLDED PLAS BODY
- TERMINAL : SOLDER PLATED, SOLDERABLE PER MIL-STD-750 METHOD 2026
- POLARITY : COLOR BAND DENOTES CATHODE
- WEIGHT : 0.21GRAMS



CASE:DO-214AB (SMC)
DIMENSIONS IN INCHES AND (MILLIMETERS)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED

SINGLE PHASE, HALF WAVE, 60 HZ, RESISTIVE OR INDUCTIVE LOAD.

FOR CAPACITIVE LOAD, DERATE CURRENT BY 20%

RATINGS	SYMBOL	US3A	US3B	US3D	US3G	US3J	US3K	US3M	UNITS
MAXIMUM RECURRENT 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 $T_L=75^{\circ}\text{C}$	I_O	3.0							A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	I_{FSM}	100							A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	C_J	75							PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta JL}$	15							$^{\circ}\text{C}/\text{W}$
STORAGE TEMPERATURE RANGE	T_{STG}	-55 TO + 150							$^{\circ}\text{C}$
OPERATING TEMPERATURE RANGE	T_{OP}	-55 TO + 150							$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($A_T T_A = 25^{\circ}\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	US3A	US3B	US3D	US3G	US3J	US3K	US3M	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_O = 3A$ DC	V_F	1.0			1.3	1.7			V
MAXIMUM DC REVERSE CURRENT AT $T_A=25^{\circ}C$	I_R	5							μA
MAXIMUM DC REVERSE CURRENT AT $T_A=125^{\circ}C$	I_R	250							μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	T_{RR}	50				75			nS
MARKING		US3A	US3B	US3D	US3G	US3J	US3K	US3M	

NOTES :

1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
2. THERMAL RESISTANCE FROM JUNCTION TO AMBIENT AND JUNCTION TO LEAD P.C.B. MOUNTED ON 0.3×0.3 " ($8.0 \times 8.0\text{mm}$) COPPER PAD AREAS
3. REVERSE RECOVERY TEST CONDITIONS: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

RATINGS AND CHARACTERISTIC CURVE US3A THRU US3M

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

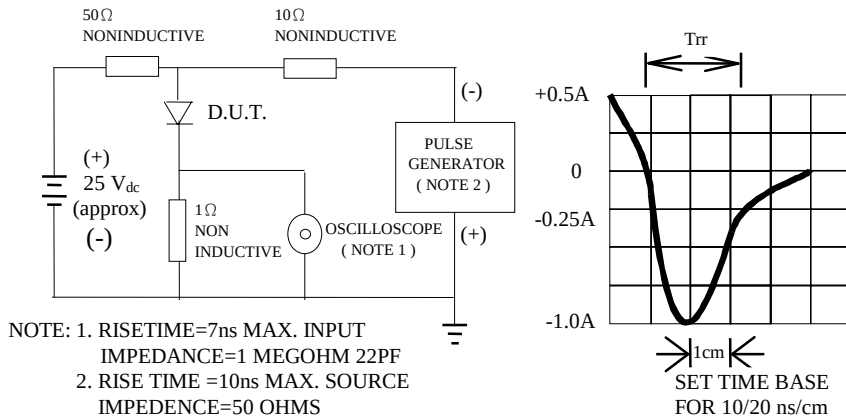


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

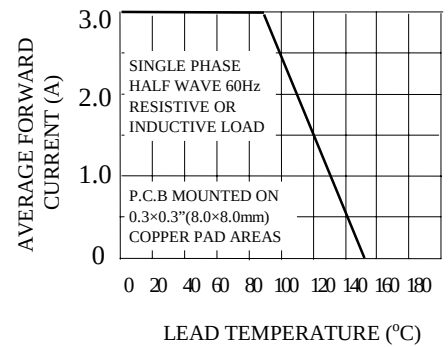


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

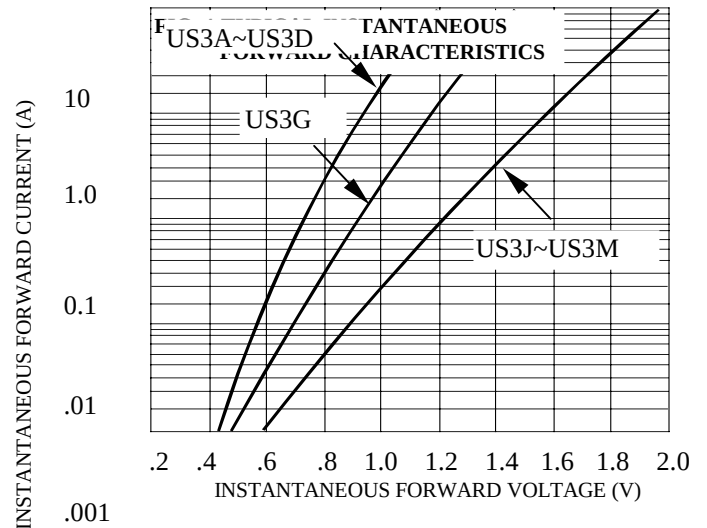
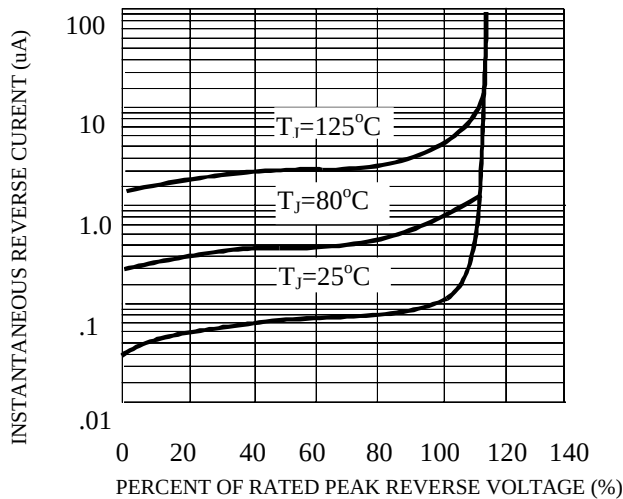


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

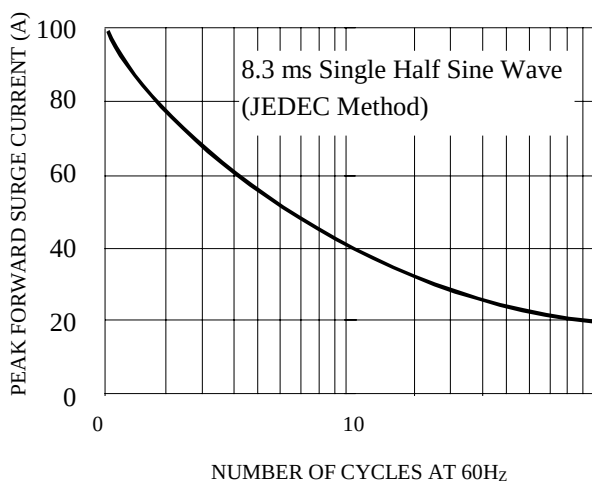


FIG. 6-TYPICAL JUNCTION CAPACITANCE

