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## 2A ULTRA FAST RECOVERY SURFACE MOUNT RECTIFIER

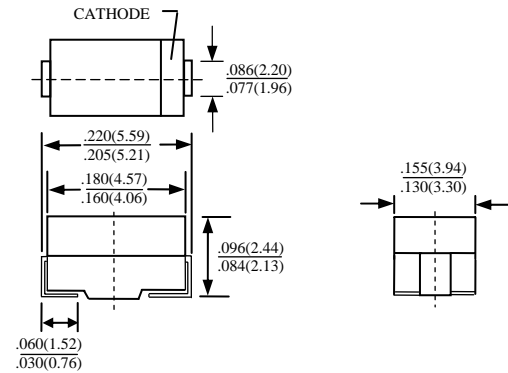
### US2A THRU US2M

#### FEATURES

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

#### MECHANICAL DATA

- CASE: JEDEC DO-214AA MOLDED PLASTIC BODY, DO-214AA (SMB), DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINAL: SOLDER PLATED, SOLDERABLE PER MIL-STD-750 METHOD 2026
- POLARITY: COLOR BAND DENOTES CATHODE
- WEIGHT: 0.093 GRAMS



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	US2A	US2B	US2D	US2G	US2J	US2K	US2M	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 $T_J=90^\circ\text{C}$	$I_O$	2.0							A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	50							A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_J$	28							PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta jL}$	20							°C/W
STORAGE TEMPERATURE RANGE	$T_{STG}$	-55 TO + 150							°C
OPERATING TEMPERATURE RANGE	$T_{OP}$	-55 TO + 150							°C

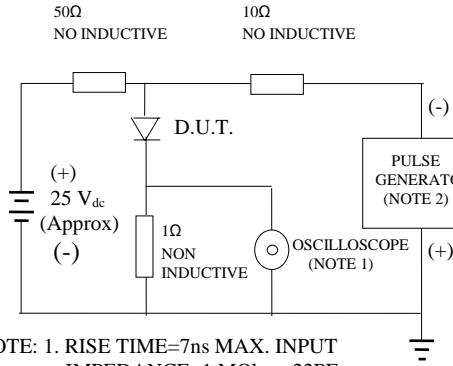
#### ELECTRICAL CHARACTERISTICS ( $A_T T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	US2A	US2B	US2D	US2G	US2J	US2K	US2M	UNITS	
MAXIMUM FORWARD VOLTAGE AT $I_O$ DC	$V_F$	1.0			1.3	1.7			V	
MAXIMUM DC REVERSE CURRENT AT $T_A=25^\circ\text{C}$	$I_R$	10							$\mu\text{A}$	
MAXIMUM DC REVERSE CURRENT AT $T_A=100^\circ\text{C}$	$I_R$	200							$\mu\text{A}$	
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	$T_{RR}$	50				75				nS
MARKING		US2A	US2B	US2D	US2G	US2J	US2K	US2M		

- 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 x 0.3" (8.0x8.0mm) 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 US2A THRU US2M

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



NOTE: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1 MOhms 22PF  
 2. RISE TIME =10ns MAX. SOURCE IMPEDANCE=50 OHMS

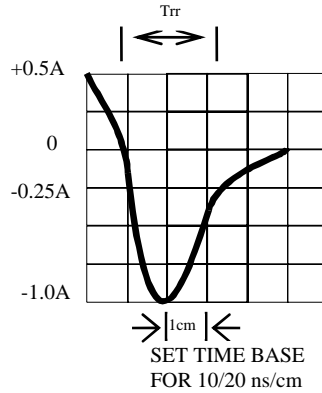


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

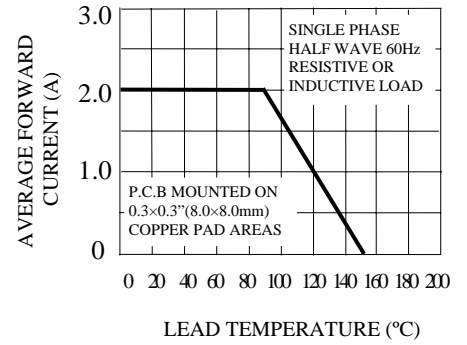


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

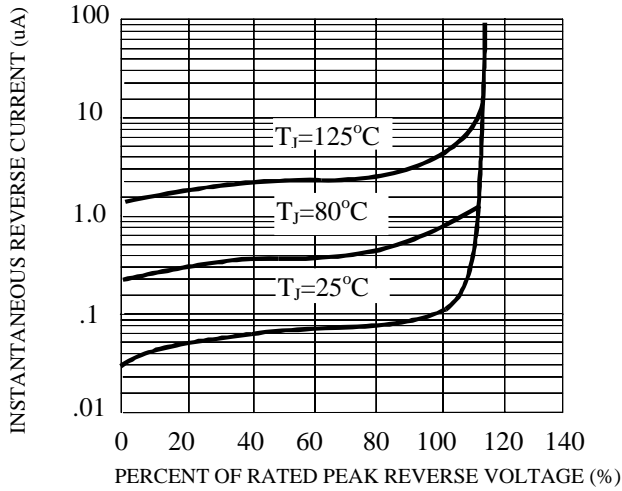


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

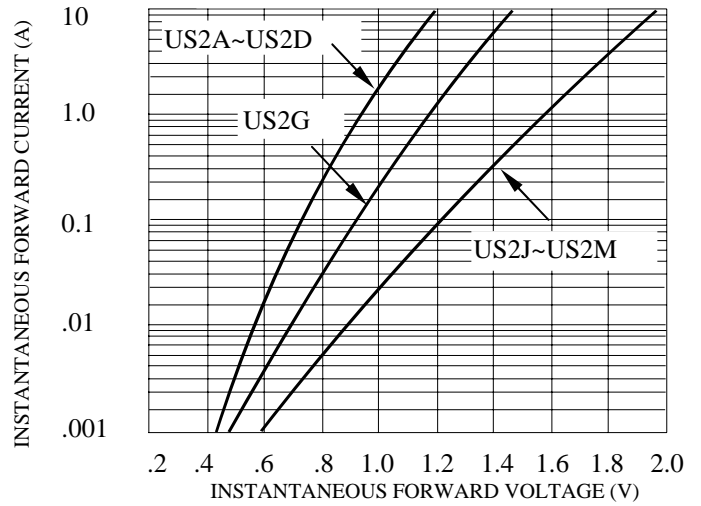


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

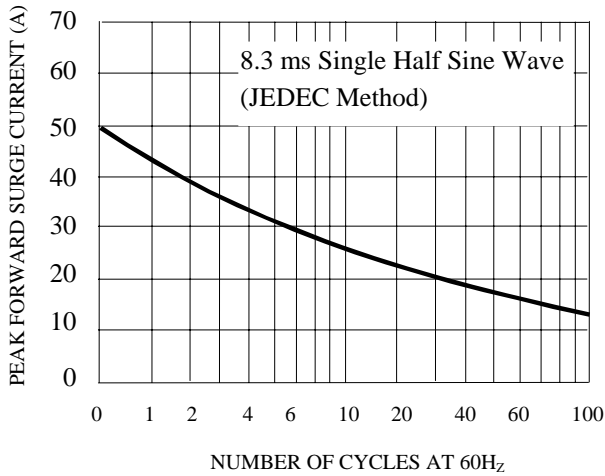


FIG. 6-TYPICAL JUNCTION CAPACITANCE

