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## 2A FAST EFFICIENT SURFACE MOUNT RECTIFIER

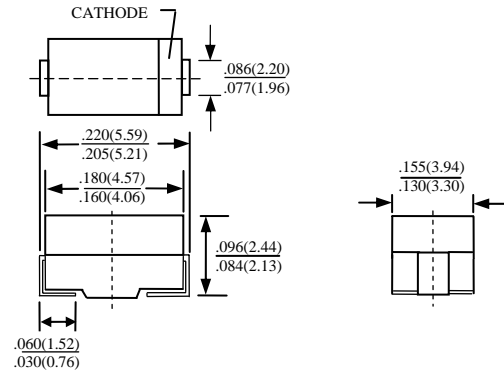
### ES2A-LFR THRU ES2J-LFR

#### 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
- FAST EFFICIENT RECOVERY TIME FOR HIGH EFFICIENT
- HIGH TEMPERATURE SOLDERING: 250°C/10 SECONDS AT TERMINAL
- ROHS

#### MECHANICAL DATA

- CASE: JEDEC DO-214AA (SMB), MOLDED PLASTIC BODY, 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	ES2A-LFR	ES2B-LFR	ES2D-LFR	ES2E-LFR	ES2G-LFR	ES2J-LFR	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	$V_{RRM}$	50	100	200	300	400	600	V
MAXIMUM RMS VOLTAGE	$V_{RMS}$	35	70	140	210	280	420	V
MAXIMUM DC BLOCKING VOLTAGE	$V_{DC}$	50	100	200	300	400	600	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)	$C_J$	25						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

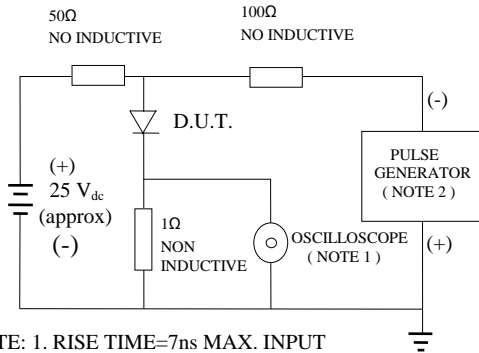
#### ELECTRICAL CHARACTERISTICS ( $A_T T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	ES2A-LFR	ES2B-LFR	ES2D-LFR	ES2E-LFR	ES2G-LFR	ES2J-LFR	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_O$ DC	$V_F$	0.98			1.25		1.75	V
MAXIMUM REVERSE CURRENT AT 25°C	$I_R$	10						μA
MAXIMUM REVERSE CURRENT AT 100°C	$I_R$	150						μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	$T_{RR}$	25						nS
MARKING		ES2A	ES2B	ES2D	ES2E	ES2G	ES2J	

- NOTE:
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" (8.0×8.0mm) 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 ES2A-LFR THRU ES2J-LFR

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

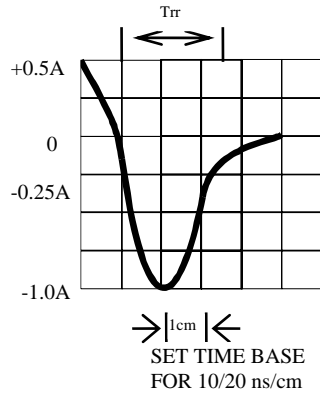


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

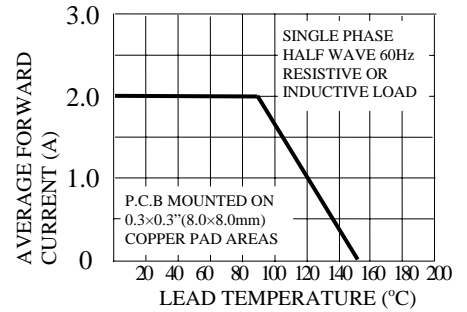


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

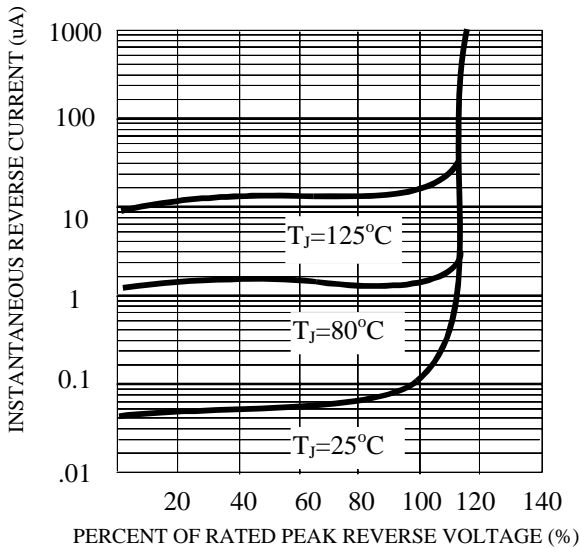


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

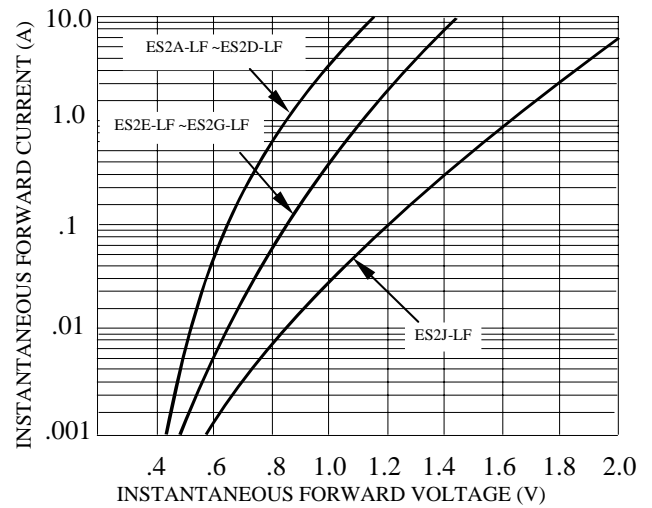


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

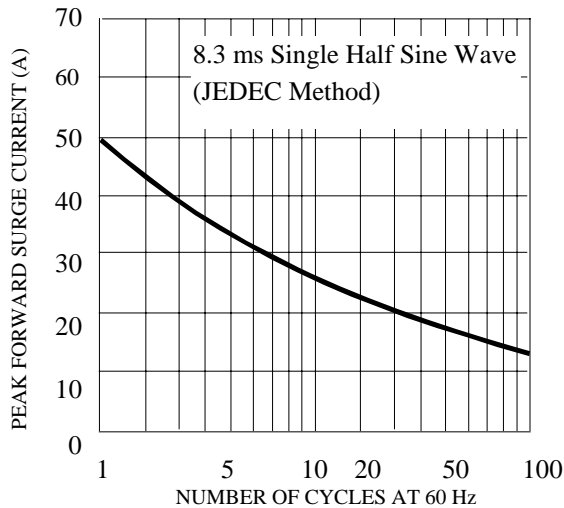


FIG. 6-TYPICAL JUNCTION CAPACITANCE

