



Frontier Electronics Corp.

667 E. COCHRAN STREET, SIMI VALLEY, CA 93065

TEL: (805) 522-9998 FAX: (805) 522-9989

E-mail: frontiersales@frontierusa.com

Web: <http://www.frontierusa.com>

2A FAST EFFICIENT SURFACE MOUNT RECTIFIER

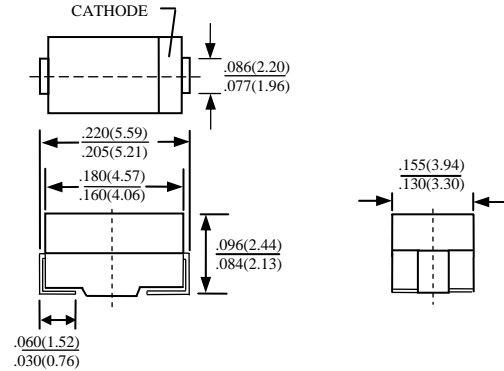
ES2A THRU ES2J

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

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	ES2B	ES2D	ES2E	ES2G	ES2J	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	ES2B	ES2D	ES2E	ES2G	ES2J	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	

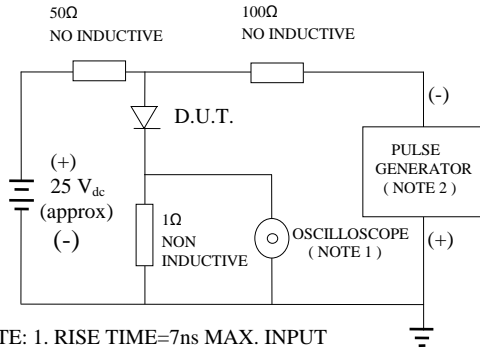
NOTE: 1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS

2. THERMAL RESISTANCE FROM JUNCTION TO AMBIENT AND JUNCTION TO LEAD P.C.B. MOUNTED ON 0.3x0.3"(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 ES2A THRU ES2J

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

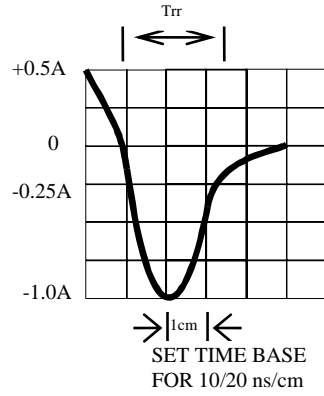


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

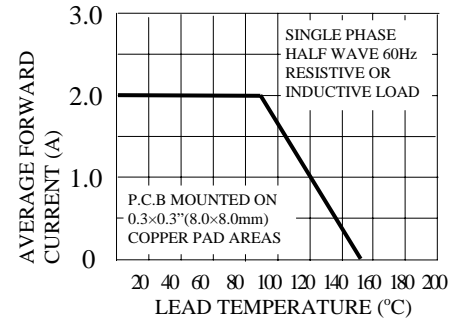


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

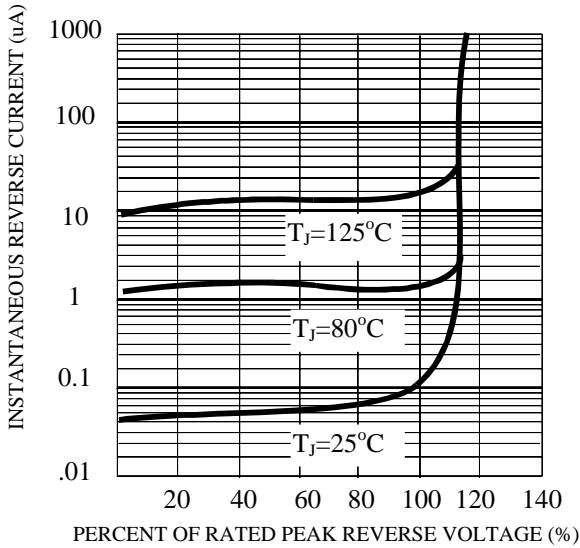


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

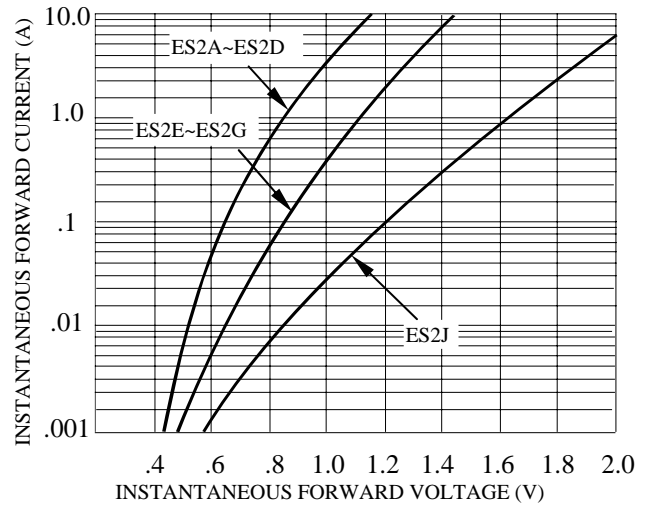


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

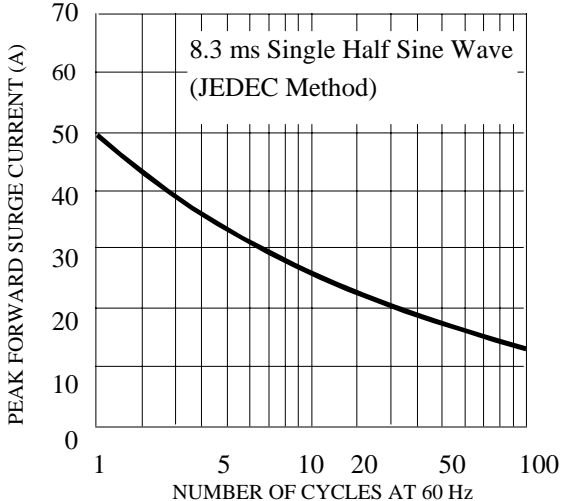


FIG. 6-TYPICAL JUNCTION CAPACITANCE

