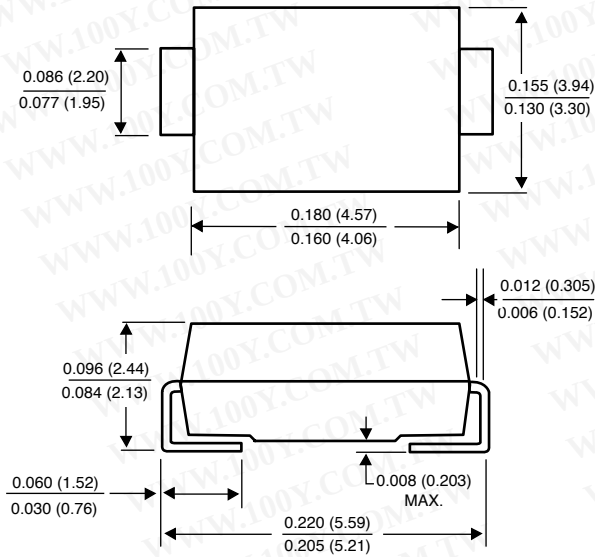


ES2A THRU ES2D

SURFACE MOUNT FAST EFFICIENT PLASTIC RECTIFIER
 Reverse Voltage - 50 to 200 Volts Forward Current - 2.0 Amperes

DO-214AA



Dimensions in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mount applications
- ◆ Low profile package
- ◆ Built-in strain relief
- ◆ Ideal for automated placement
- ◆ Easy pick and place
- ◆ Glass passivated chip junction
- ◆ Superfast recovery times for high efficiency
- ◆ Low power loss, high efficiency
- ◆ High temperature soldering: 250°C/10 seconds at terminals



MECHANICAL DATA

Case: JEDEC DO-214AA molded plastic body over passivated chip

Terminals: Solder plated solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.003 ounces, 0.093 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	ES2A	ES2B	ES2C	ES2D	UNITS
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	Volts
Maximum average forward rectified current at $T_L=110^\circ\text{C}$	$I_{(AV)}$	2.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_L=110^\circ\text{C}$	I_{FSM}	50.0				Amps
Maximum instantaneous forward voltage at 2.0A	V_F	0.90				Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	10.0 350				μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	20.0				ns
Maximum reverse recovery time $T_J=25^\circ\text{C}$ (NOTE 2) $T_J=100^\circ\text{C}$	t_{rr}	30.0 50.0				ns
Maximum stored charge (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	Q_{rr}	10.0 25.0				nC
Typical junction capacitance (NOTE 3)	C_J	18.0				pF
Maximum thermal resistance (NOTE 4)	$R_{\theta JA}$ $R_{\theta JL}$	75.0 20.0				$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				$^\circ\text{C}$

NOTES:

- (1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_{rr}=0.25\text{A}$
- (2) T_{rr} and Q_{rr} measured at: $I_F=2.0\text{A}$, $V_R=30\text{V}$, $di/dt=50\text{A}/\mu\text{s}$, $I_{rr}=10\%$ I_R
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Units mounted on P.C.B. 5.0 x 5.0mm (0.013mm thick) land areas

RATING AND CHARACTERISTIC CURVES ES2A THRU ES2D

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

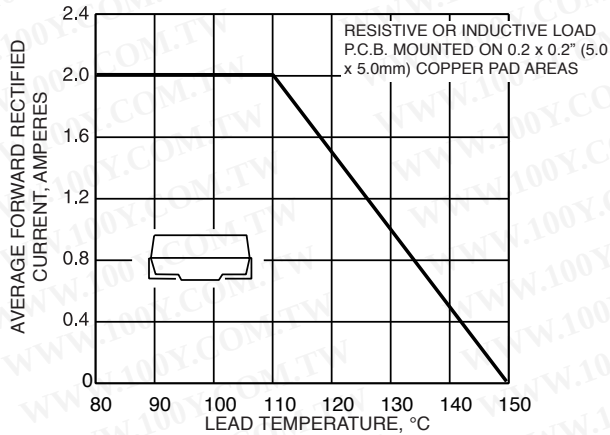


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

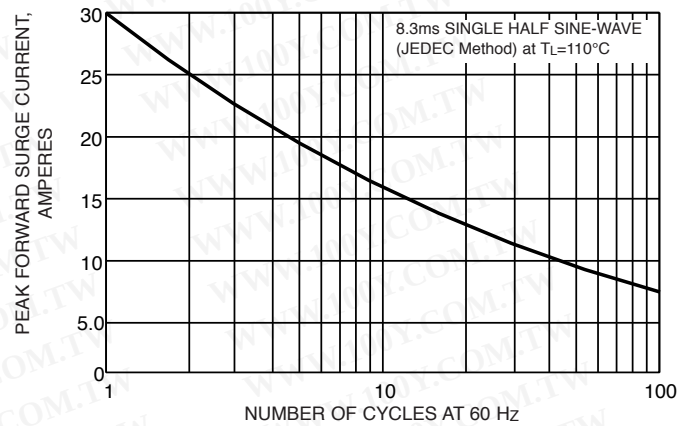


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

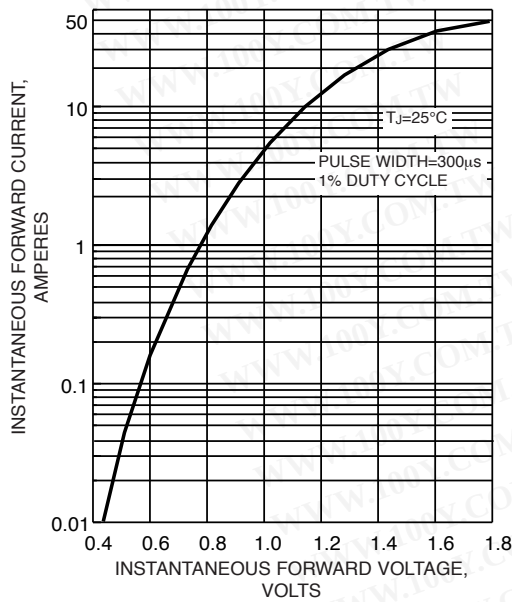


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

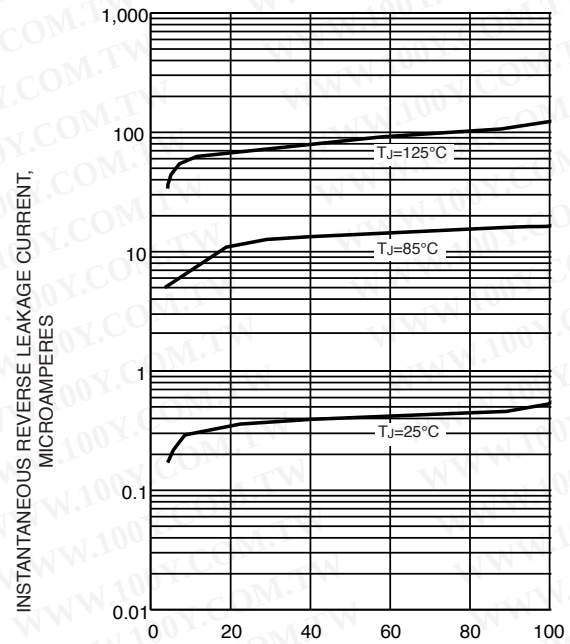
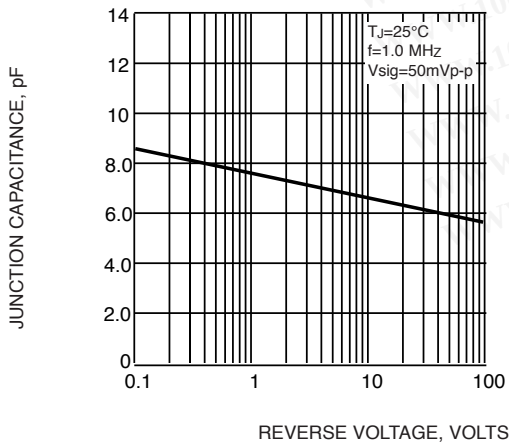
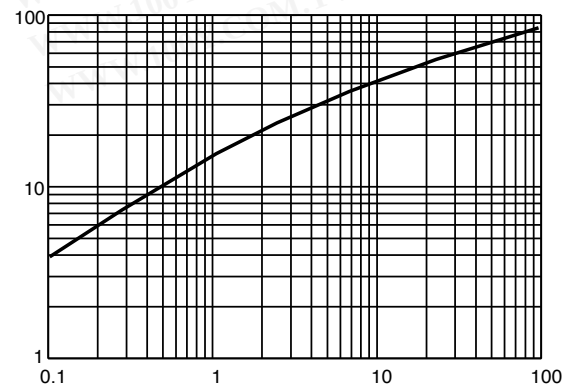


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



PERCENT OF RATED PEAK REVERSE VOLTAGE, %



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