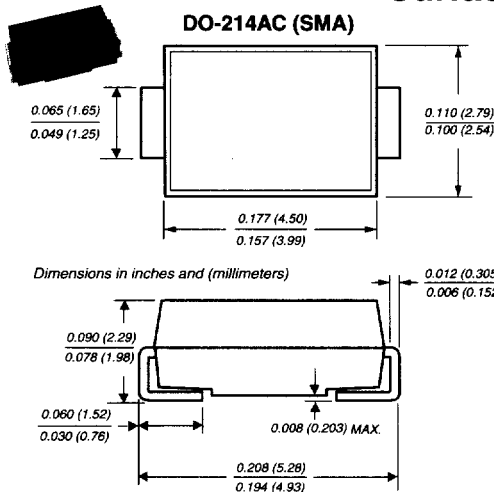


Surface Mount Ultrafast Plastic Rectifier

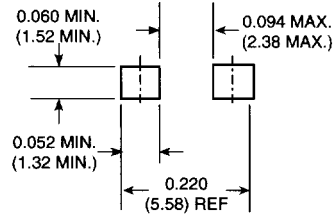
Reverse Voltage 50 to 200V

Forward Current 1.0A

Reverse Recovery Time 15ns



Mounting Pad Layout



Mechanical Data

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

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

Polarity: Color band denotes cathode end

Weight: 0.002 ounce, 0.064 gram

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mount applications
- Glass passivated chip junctions
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering guaranteed: 250°C/10 seconds on terminals

Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	ES1A	ES1B	ES1C	ES1D	UNITS
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	V
Maximum average forward rectified current at T _L =120°C	I _{F(AV)}	1.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30				A
Operating and storage temperature range	T _J , T _{STG}	-55 to +150				°C
Maximum thermal resistance (NOTE 1)	R _{θJA} R _{θJL}	85 35				°C/W

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	ES1A	ES1B	ES1C	ES1D	UNITS
Maximum instantaneous forward voltage (NOTE 2) at 0.6A at 1.0A	V _F	0.865 0.920				V
Maximum DC reverse current at rated DC blocking voltage T _A =25°C T _A =100°C	I _R	5.0 100				μA
Maximum reverse recovery time at I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	t _{rr}	15				ns
Maximum reverse recovery time at I _F =0.6A, V _R =30V, di/dt=50A/μs, I _{rr} =10% I _{RM} T _A =25°C T _A =100°C	t _{rr}	25 35				ns
Maximum stored charge at I _F =0.6A, V _R =30V, di/dt=50A/μs, I _{rr} =10% I _{RM} T _A =25°C T _A =100°C	Q _{rr}	10 25				nC
Typical junction capacitance at 4.0V 1MHz	C _J	7.0				pF

NOTES:

- (1) P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0mm)² copper pad area
- (2) Pulse test: 300μs pulse width, 1% duty cycle

ES1A thru ES1D

Surface Mount Ultrafast Plastic Rectifier

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Ultrafast Recovery

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

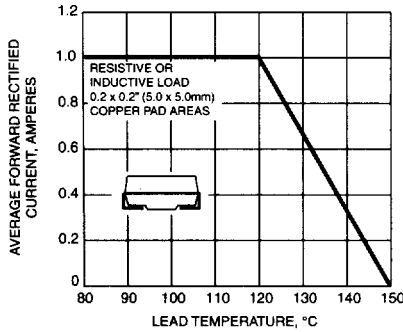


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

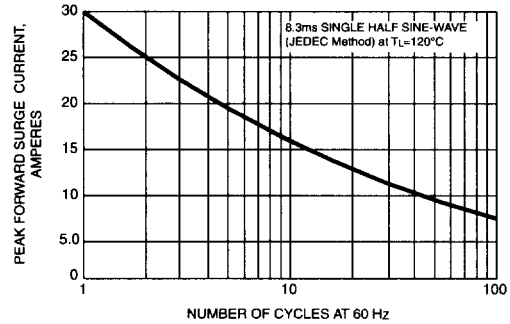


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

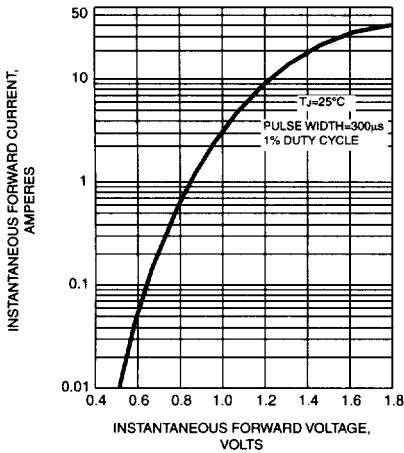


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

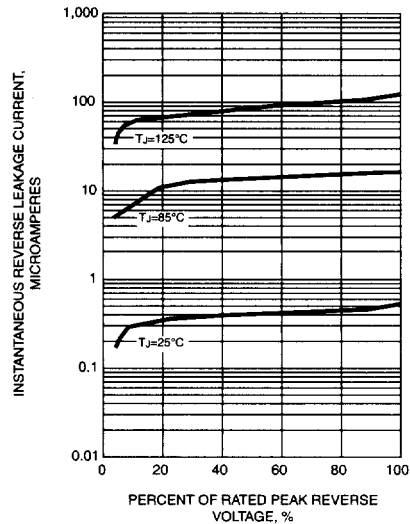


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

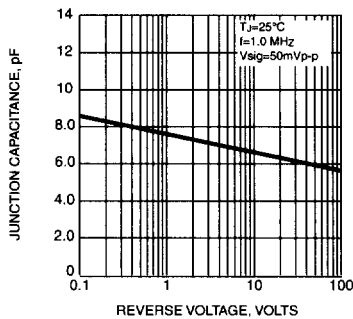


FIG. 5 - TYPICAL THERMAL IMPEDANCE

