

ES1D THUR ES1J Super-Fast Surface Mount Rectifiers

General description

Super Fast Surface Mount Rectifiers

Reverse Voltage : 50 to 600V

Forward Current:1.0A

SMA/DO214AC package

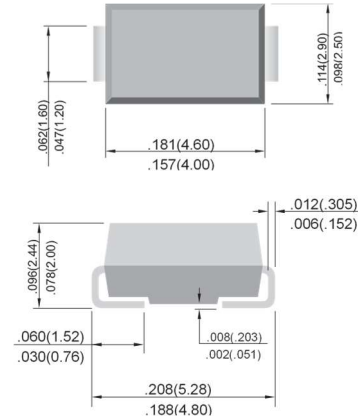
FEATURES

- Low profile package
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency.
- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-O
- Glass passivated junction
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750 ,Method 2026
- Polarity: Indicated by cathode band.
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.002 ounce, 0.064 gram

SMA/DO-214AC



Unit: inch (mm)

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

Parameter	SYMBOLS	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	UNITS	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	VOLTS	
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	VOLTS	
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	VOLTS	
Maximum average forward rectified current at $T_L=55^\circ\text{C}$	$I_{(AV)}$	1.0							Amp	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0							Amps	
Maximum instantaneous forward voltage at 1.0A	V_F	0.95				1.3		1.7	Volts	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	5.0				50.0				μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	35				ns				
Typical junction capacitance (NOTE 2)	C_J	15.0				pF				
Typical thermal resistance (NOTE 3)	R_{qJA}	60.0				$^\circ\text{C/W}$				
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$	

Note:1.Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$ 2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

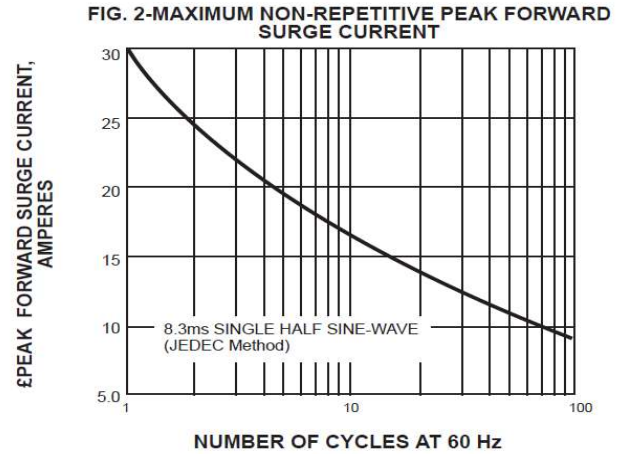
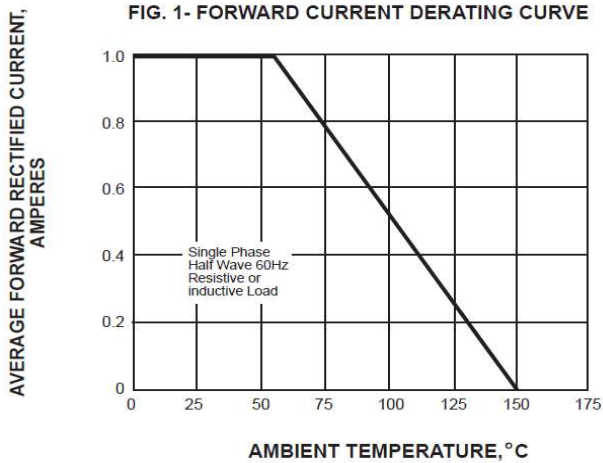


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

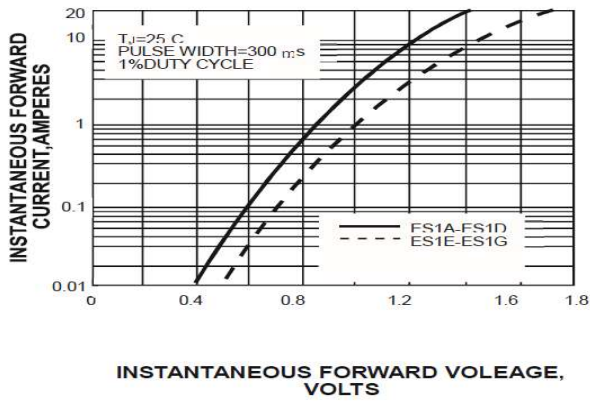


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

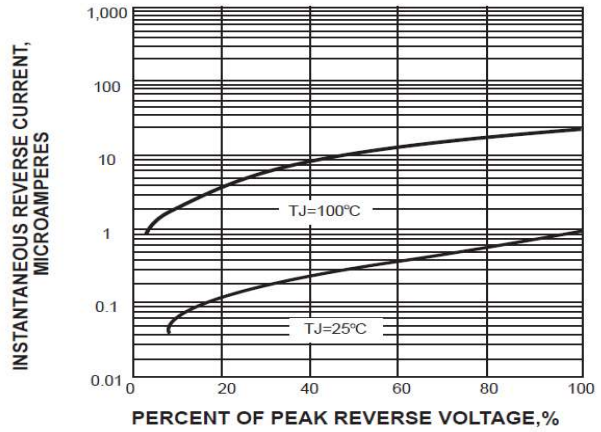


FIG. 5-TYPICAL JUNCTION CAPACITANCE

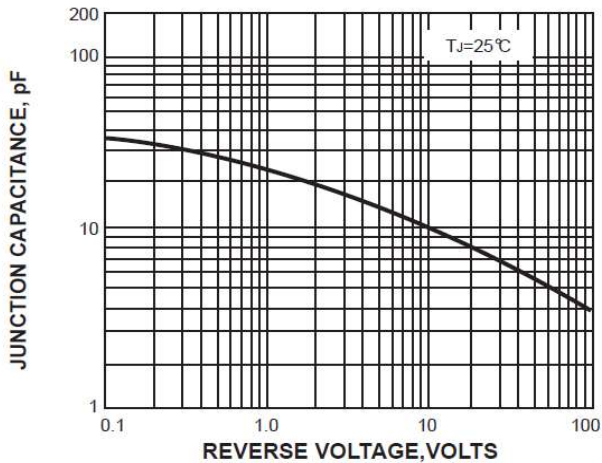
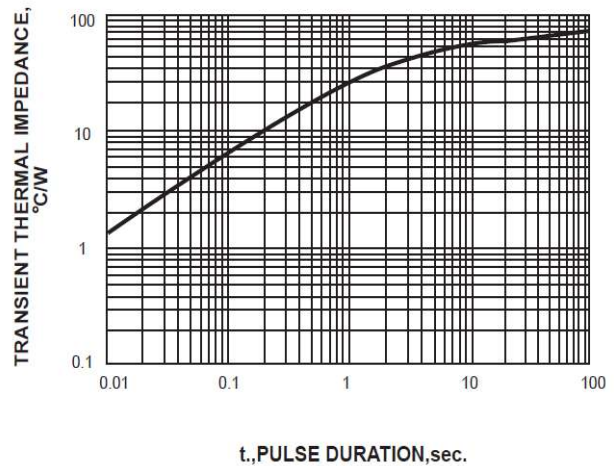
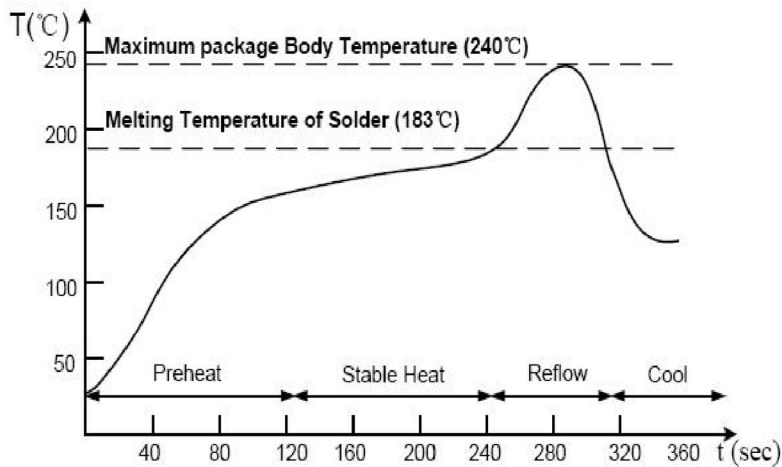


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



ES1D THUR ES1J

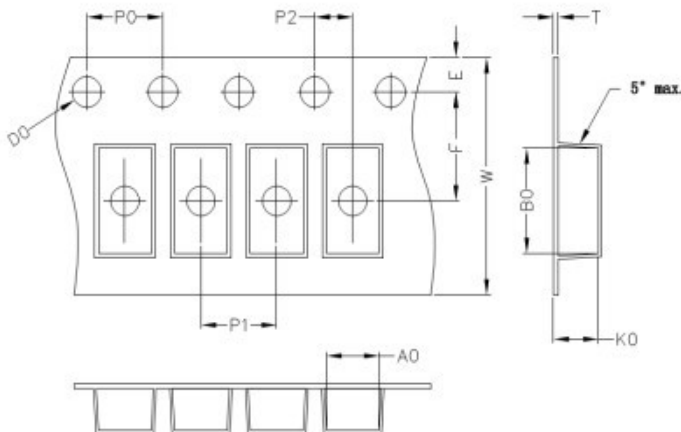
Suggested Soldering Temperature Profile



Note

- ◆ Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- ◆ The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- ◆ Devices can be cleaned using standard industry methods and solvents.
- ◆ If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information



A0	B0	K0	D0	E	F
2.80	5.30	2.36	1.55	1.75	5.50
P0	P1	P2	T	W	Tolerance
4.0	4.0	2.0	0.25	12	0.1

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SMA	7'	178	2	180*180*73	8	380*200*200	80
	11'	280	5	288*288*38	10	355*310*310	80

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