

Ultrafast Rectifiers, Surface Mount, 10 A, 200 V - 600 V

FES10D, FES10G, FES10J

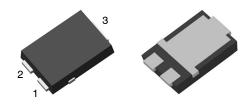
Features

- Very Low Profile: Typical Height of 1.1 mm
- Ultrafast Recovery Time
- Low Forward Voltage Drop
- Low Thermal Resistance
- Very Stable Operation at Industrial Temperature, 150°C
- RoHS Compliant
- Green Molding Compound as per IEC61249 Standard
- Lead Free in Compliance with EU RoHS 2011/65/EU Directive
- With DAP Option Only
- Industrial Device Qualified per AEC-Q101 Standards
- * See authorized use policy

MAXIMUM RATINGS

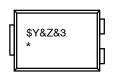
Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage FES10D FES10G FES10J	V_{RRM}	200 400 600	V
Average Forward Rectified Current	I _{F(AV)}	10	Α
Peak Forward Surge Current: 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	150	Α
Operating Junction Temperature Range	TJ	-55 to +175	°C
Storage Temperature Range	T _{STG}	–55 to +175	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



TO-277-3LD CASE 340BQ

MARKING DIAGRAM

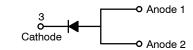


\$Y

= onsemi Logo

&Z

- = Assembly Plant Code
- &3
- = Date Code (Year & Week)
- = Specific Device Code
 - FES10D, FES10G, FES10J



ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

FES10D, FES10G, FES10J

ORDERING INFORMATION

Part Number	Top Mark	Package	Shipping [†]
FES10D	FES10D	TO-277 3L (with DAP Option only)	5000 / Tape & Reel
FES10G	FES10G	TO-277 3L (with DAP Option only)	5000 / Tape & Reel
FES10J	FES10J	TO-277 3L (with DAP Option only)	5000 / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

THERMAL CHARACTERISTICS (Values are at $T_A = 25^{\circ}C$ unless otherwise noted) (Note 1)

Parameter	Symbol	Value	Unit
Thermal Characteristics, Junction-to-Lead, Thermocouple Soldered to Cathode		6	°C/W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	100	°C/W

^{1.} Per JESD51-3 Recommended Thermal Test Board.

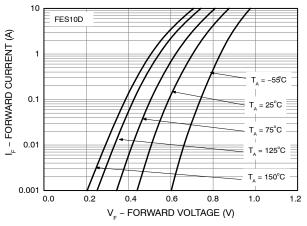
ELECTRICAL CHARACTERISTICS (Values are at T_A = 25°C unless otherwise noted)

			Value			
Symbol	Parameter	Conditions	FES10D	FES10G	FES10J	Unit
V _F	Maximum Instantaneous Forward	I _F = 10 A	0.95	1.20	1.80	V
	Voltage (Note 2)	I _F = 10 A, T _J = 125°C	0.86	1.00	-	
I _R	Maximum Reverse Current	T _J = 25°C	5			μΑ
	at Rated V _R	T _J = 125°C	250	500		
CJ	Typical Junction Capacitance	V _R = 4 V, f = 1 MHz	140		pF	
T _{rr}	Typical Reverse Recovery Time	I _F = 0.5 A, I _R = 1 A, I _{RR} = 0.25 A	30		ns	
		$I_F = 1 \text{ A, di/dt} = 50 \text{ A/}\mu\text{s, V}_R = 30 \text{ A}$	40			

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions. 2. Pulse test with PW = 300 μ s, 1% duty cycle

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TYPICAL CHARACTERISTICS



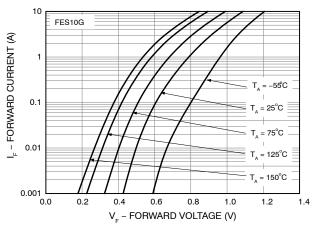
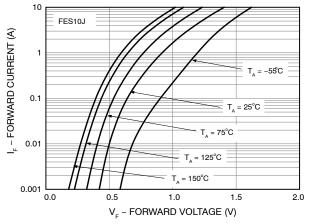


Fig 1. Typical Forward Characteristics for FES10D

Fig 2. Typical Forward Characteristics for FES10G



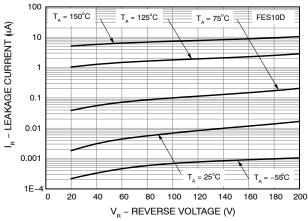
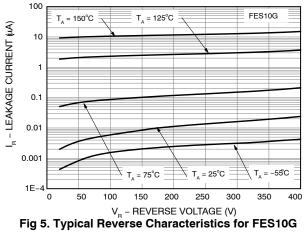


Fig 3. Typical Forward Characteristics for FES10J

Fig 4. Typical Reverse Characteristics for FES10D



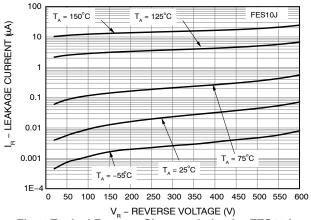


Fig 6. Typical Reverse Characteristics for FES10J

FES10D, FES10G, FES10J

TYPICAL CHARACTERISTICS

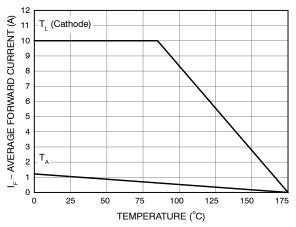


Fig 7. Forward Current Derating Curve

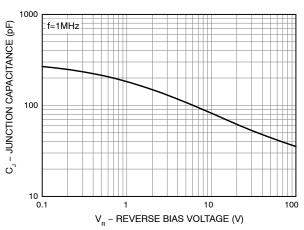
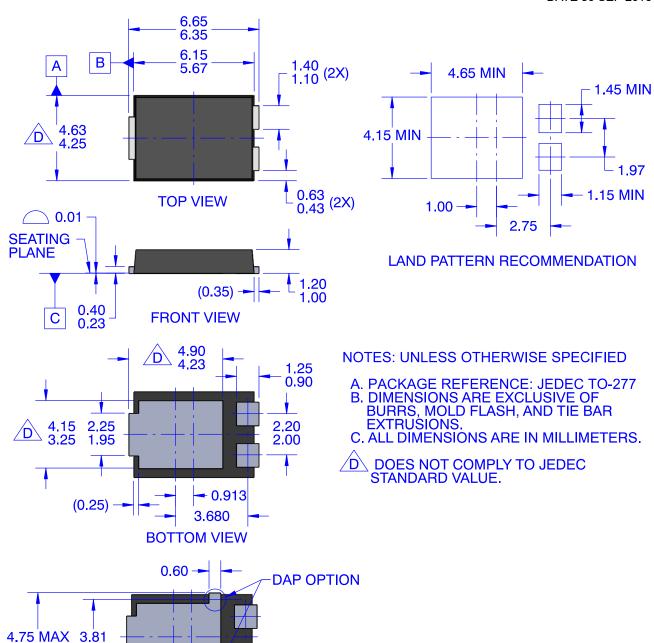


Fig 8. Typical Junction Capacitance



TO-277-3LD CASE 340BQ ISSUE O

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DESCRIPTION:	TO-277-3LD		PAGE 1 OF 1

BOTTOM VIEW - DAP OPTION

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