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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild guestions@onsemi.com.

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

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
- Industrial Device Qualified per AEC-Q101 Standards
- * See authorized use policy

MAXIMUM RATINGS

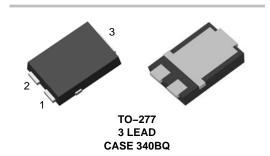
Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage FES6D FES6G FES6J	V_{RRM}	200 400 600	>
Average Forward Rectified Current	I _{F(AV)}	6	Α
Peak Forward Surge Current: 8.3 ms Single Half Sine–Wave Superimposed on Rated Load	I _{FSM}	80	A
Operating Junction Temperature Range	T_J	–55 to +175	°C
Storage Temperature Range	T _{STG}	–55 to +175	°C

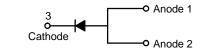
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



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ORDERING INFORMATION

See detailed ordering and shipping information on page 6 of this data sheet.

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	$\Psi_{\sf JL}$	6	°C/W
Thermal Resistance, Junction-to-Ambient	$R_{ heta JA}$	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	FES6D	FES6G	FES6J	Unit
V _F	V _F Maximum Instantaneous Forward Voltage (Note 2)	I _F = 6 A	1.05	1.20	2.2	V
		I _F = 6 A, T _J = 125°C	0.90	1.00	1.80	
I _R	Maximum Reverse Current	T _J = 25°C	2		μΑ	
at Rated V _R		T _J = 125°C	200	500		
CJ	Typical Junction Capacitance	V _R = 4 V, f = 1 MHz	60 45		pF	
T _{rr}	Typical Reverse Recovery Time	I _F = 0.5 A, I _R = 1 A, I _{RR} = 0.25 A	25 45		ns	
		$I_F = 1 \text{ A, di/dt} = 50 \text{ A/}\mu\text{s, V}_R = 30 \text{ V}$				

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 = $300 \mu s$, 1% duty cycle

TYPICAL CHARACTERISTICS

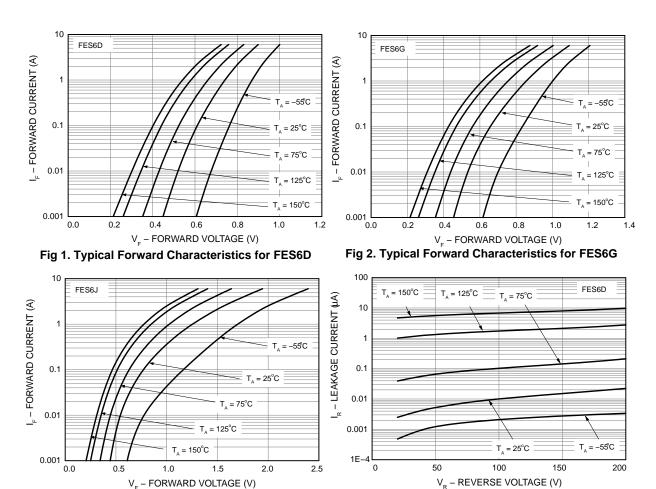


Fig 3. Typical Forward Characteristics for FES6J

Fig 4. Typical Reverse Characteristics for FES6D

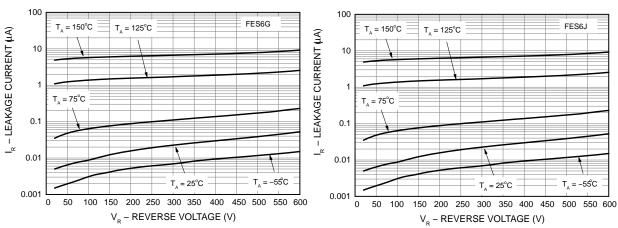


Fig 5. Typical Reverse Characteristics for FES6G

Fig 6. Typical Reverse Characteristics for FES6J

TYPICAL CHARACTERISTICS

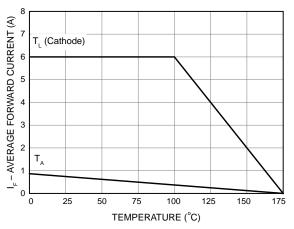


Fig 7. Forward Current Derating Curve

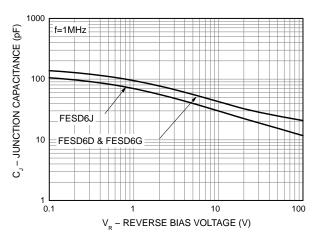
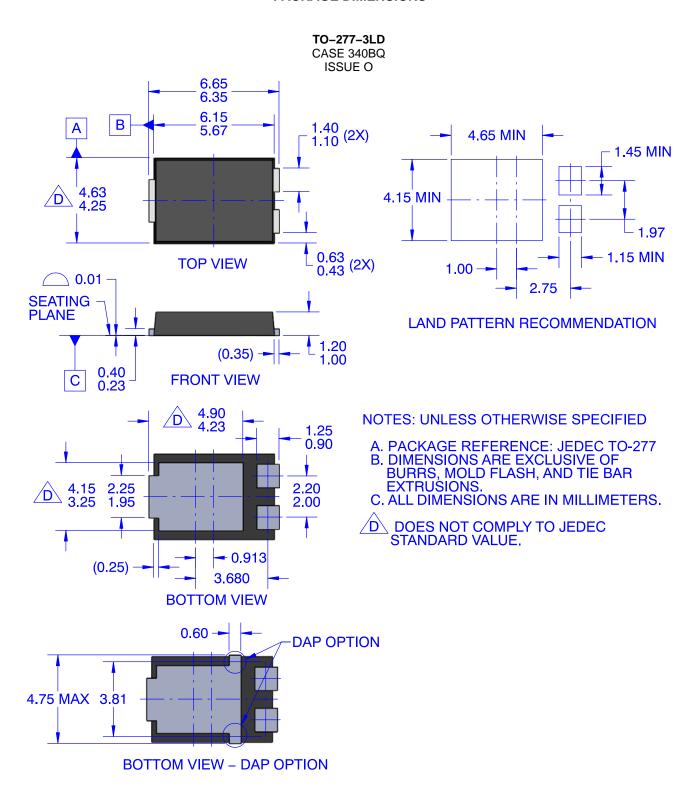


Fig 8. Typical Junction Capacitance

PACKAGE DIMENSIONS



ORDERING INFORMATION

Part Number	Top Mark	Package	Packing Method
FES6D	FES6D	TO-277 3L (with DAP Option only)	Tape & Reel
FES6G	FES6G	TO-277 3L (with DAP Option only)	Tape & Reel
FES6J	FES6J	TO-277 3L (with DAP Option only)	Tape & Reel

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FES6D

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многоканальный

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