





**Solid State Devices, Inc.**

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# SFT6032

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Electrical Characteristics		Symbol	Min	Max	Units
Collector – Emitter Blocking Voltage *	(I <sub>C</sub> = 200 mA) SFT6032	BV <sub>CEO</sub>	90	—	Volts
	SFT6033		120	—	
	(I <sub>C</sub> = 200 mA, R <sub>BE</sub> = 50 Ω) SFT6032	BV <sub>CER</sub>	110	—	
	SFT6033		140	—	
Collector – Emitter Blocking Voltage *	(I <sub>C</sub> = 200 mA, V <sub>BE</sub> = -1.5 V) SFT6032	BV <sub>CEX</sub>	120	—	Volts
	SFT6033		150	—	
Collector Cutoff Current	(V <sub>CE</sub> = 80 V)	I <sub>CEO</sub>	—	1	mA
Collector Cutoff Current	(V <sub>CB</sub> = 120 V) SFT6032	I <sub>CBO</sub>	—	1	mA
	(V <sub>CB</sub> = 150 V) SFT6033		—	1	
Emitter Cutoff Current	(V <sub>EB</sub> = 7 V)	I <sub>EBO</sub>	—	1	mA
Collector Cutoff Current	T <sub>A</sub> = 25°C (V <sub>CE</sub> = 110 V, V <sub>BE</sub> = 1.5 V) SFT6032	I <sub>CEX</sub>	—	1	mA
	T <sub>A</sub> = 25°C (V <sub>CE</sub> = 135 V, V <sub>BE</sub> = 1.5 V) SFT6033		—	1	
	T <sub>A</sub> = 150°C (V <sub>CE</sub> = 100 V, V <sub>BE</sub> = 1.5 V) SFT6032		—	15	
	T <sub>A</sub> = 150°C (V <sub>CE</sub> = 100 V, V <sub>BE</sub> = 1.5 V) SFT6033		—	10	
DC Current Gain *	I <sub>C</sub> = 50 A, V <sub>CE</sub> = 2.6 V, SFT6032	h <sub>FE</sub>	10	50	
	I <sub>C</sub> = 40 A, V <sub>CE</sub> = 2 V, SFT6033		10	50	
	I <sub>C</sub> = 50 A, V <sub>CE</sub> = 2.6 V, T <sub>A</sub> = -55°C SFT6032		5	—	
	I <sub>C</sub> = 40 A, V <sub>CE</sub> = 2 V, T <sub>A</sub> = -55°C, SFT6033		5	—	
Small Signal Common-Emitter Forward Current Transfer Ratio	(I <sub>C</sub> = 2 A, V <sub>CE</sub> = 10 V, f = 5 MHz)	h <sub>fe</sub>	10	40	
Collector-Emitter Saturation Voltage *	(I <sub>C</sub> = 50 A, I <sub>B</sub> = 5 A) SFT6032	V <sub>CE(SAT)</sub>	—	1.3	Volts
	(I <sub>C</sub> = 40 A, I <sub>B</sub> = 4 A) SFT6033		—	1.0	
Base-Emitter Saturation Voltage *	(I <sub>C</sub> = 50 A, I <sub>B</sub> = 5 A) SFT6032	V <sub>BE(SAT)</sub>	—	2.5	Volts
	(I <sub>C</sub> = 40 A, I <sub>B</sub> = 4 A) SFT6033		—	2.5	
Output Capacitance	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0 A, f = 1.0MHz	C <sub>ob</sub>	—	1000	pF
Safe Operating Area	V <sub>CE</sub> = 2.8 V, I <sub>C</sub> = 50 A, t = 1 s, SFT6032	SOA1a			
	V <sub>CE</sub> = 3.5 V, I <sub>C</sub> = 40 A, t = 1 s, SFT6033	SOA1b			
	V <sub>CE</sub> = 24 V, I <sub>C</sub> = 5.8 A, t = 1 s	SOA2			
	V <sub>CE</sub> = 40 V, I <sub>C</sub> = 0.9 A, t = 1 s	SOA3			
	V <sub>CE</sub> = 90 V, I <sub>C</sub> = 0.18 A, t = 1 s, SFT6032	SOA4a			
	V <sub>CE</sub> = 120 V, I <sub>C</sub> = 0.10 A, t = 1 s, SFT6033	SOA4b			
Turn-on Time	(V <sub>CC</sub> = 30 V, I <sub>C</sub> = 50.0 A, I <sub>B1</sub> = I <sub>B2</sub> = 5.0 A) SFT6032	t <sub>(on)</sub>	—	500	ns
Turn-off Time	(V <sub>CC</sub> = 30 V, I <sub>C</sub> = 40.0 A, I <sub>B1</sub> = I <sub>B2</sub> = 4.0 A) SFT6033	t <sub>(off)</sub>	—	2.0	μs

**NOTES:** \* Pulse Test: Pulse Width = 300μsec, Duty Cycle = 2%

1/ For Ordering Information, Price, and Availability Contact Factory.      4/ Up and Down Bend Configurations are Available for 'M' (TO-254) Packages Only.

2/ Screening per MIL-PRF-19500      5/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

3/ For Package Outlines Contact Factory.

**Available Part Numbers:**  
 SFT6032/3  
 SFT6033/3

PIN ASSIGNMENT (Standard)			
Package	Collector	Emitter	Base
TO-3 (/3)	Case	Pin 2	Pin 3