



Solid State Devices, Inc.

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SFT5671 and SFT5672 SFT5672E

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFT5671	—	—	—
SFT5672	—	—	—
SFT5672E	—	—	—
	Screening ^{2/}	—	= No Screening TX = TX Level TXV = TXV Level S = S Level
	Lead Bend ^{3/}	—	= Straight Leads UB = Up Bend DB = Down Bend
	Package	/3 = TO-3 M = TO-254 S1 = SMD1	

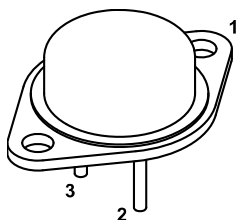
30 – 50 AMP High Power NPN Transistors 90 – 130 Volts

Features:

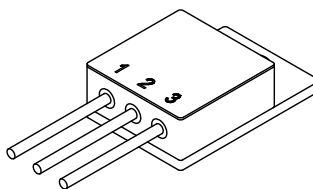
- High Frequency Transistor with BV_{CEO} to 130 Volts
- Enhanced SOA Capability and Fast Switching
- High Power Dissipation 140 Watts
- 200°C Operating Temperature
- TX, TXV, and S Level Screening Available - Consult Factory
- Enhanced Performance Version: SFT5672E

Maximum Ratings		Symbol	Value	Unit
Collector – Emitter Voltage	SFT5671	V_{CEO}	90	V
	SFT5672		120	
	SFT5672E		130	
Collector – Base Voltage	SFT5671	V_{CBO}	120	V
	SFT5672		150	
	SFT5672E		250	
Emitter – Base Voltage		V_{EBO}	7	V
Collector Current	SFT5671, SFT5672 SFT5672E	I_C	30	A
			50	
Base Current		I_B	10	A
Total Power Dissipation	TO-3 ($T_C \leq 25^\circ C$)	P_D	140	W
	TO-254 ($T_C \leq 25^\circ C$)		116	
	SMD1 ($T_C \leq 25^\circ C$)		175	
Operating & Storage Temperature		T_J & T_{STG}	-65 to +200	°C
Maximum Thermal Resistance (Junction to Case)	TO-3	$R_{\theta JC}$	1.25	°C/W
	TO-254		1.50	
	SMD1		1.00	

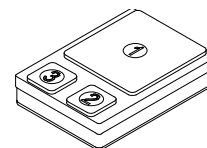
TO-3 (/3)



TO-254 (M)



SMD1 (S1)



NOTES:

^{1/} For ordering information, price, and availability, contact factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} Up and Down Bend Configurations are Available for 'M' (TO-254) Packages Only.

NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: TR0076D

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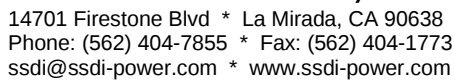
SFT5671 and SFT5672 SFT5672E

Electrical Characteristics			Symbol	Min	Max	Unit	
(Unless otherwise specified, T _A = 25°C, *pulse test: pw= 300 us, duty cycle= 2%)							
Collector – Emitter Blocking Voltage*			(I _C = 200 mA) SFT5671	BV _{CEO}	90	V	
			SFT5672		120		
			SFT5672E		130		
			(I _C = 200 mA, R _{BE} = 50 Ω) SFT5671	BV _{CER}	110		V
			SFT5672		140		
			SFT5672E		250		
Collector – Emitter Blocking Voltage*			(I _C = 200 mA, V _{BE} = -1.5 V) SFT5671	BV _{CEX}	120	V	
			SFT5672		150		
			SFT5672E		350		
Emitter – Base Blocking Voltage			(I _E = 100 μA)	BV _{EBO}	7	V	
Collector Cutoff Current			(V _{CE} = 80 V) SFT5671, SFT5672	I _{CEO}	—	10	mA
			SFT5672E		—		
Collector Cutoff Current			(V _{CB} = 120 V) SFT5671	I _{CBO}	—	25	mA
			(V _{CB} = 150 V) SFT5672		—	25	
			(V _{CB} = 150 V) SFT5672E		—	0.1	
Emitter Cutoff Current			(V _{EB} = 7 V) SFT5671, SFT5672	I _{EBO}	—	10	mA
			SFT5672E		—	0.1	
Collector Cutoff Current				I _{CEX}	—	12	mA
T _A = 25°C (V _{CE} = 110 V, V _{BE} = 1.5 V) SFT5671			—		10		
T _A = 25°C (V _{CE} = 135 V, V _{BE} = 1.5 V) SFT5672			—		0.1		
T _A = 25°C (V _{CE} = 135 V, V _{BE} = 1.5 V) SFT5672E			—		15		
T _A = 150°C (V _{CE} = 100 V, V _{BE} = 1.5 V) SFT5671			—		10		
T _A = 150°C (V _{CE} = 100 V, V _{BE} = 1.5 V) SFT5672			—				
DC Current Gain*			(I _C = 15 A, V _{CE} = 2 V)	h _{FE}	20	100	
			(I _C = 20 A, V _{CE} = 5 V)		20	—	
			(I _C = 50 A, V _{CE} = 5 V) SFT5672E		10	—	
			(I _C = 15 A, V _{CE} = 2 V, T _A = -65°C)		10	—	
Small Signal Common-Emitter Forward Current Transfer Ratio			(I _C = 2 A, V _{CE} = 10 V, f = 5 MHz)	h _{fe}	10	40	
Collector-Emitter Saturation Voltage*		TO-3, SMD1 (I _C = 15 A, I _B = 1.2 A)		V _{CE (SAT)}	—	0.75	V
					(I _C = 30 A, I _B = 6.0 A)		
		TO-254 (I _C = 15 A, I _B = 1.2 A)			—	0.77	
					(I _C = 30 A, I _B = 6.0 A)		
Base-Emitter Saturation Voltage*			(I _C = 15 A, I _B = 1.2 A)	V _{BE (SAT)}	—	1.5	V
Output Capacitance			V _{CB} = 10 V, I _E = 0 A, f = 1.0 MHz	C _{ob}	—	900	pF
Safe Operating Area			V _{CE} = 4.67 V, I _C = 30 A, t = 1 s	SOA1 SOA2 SOA3 SOA4 SOA4			
			V _{CE} = 24 V, I _C = 5.0 A, t = 1 s				
			V _{CE} = 45 V, I _C = 0.9 A, t = 1 s				
			V _{CE} = 90 V, I _C = 0.19 A, t = 1 s, SFT5671, SFT5672				
			V _{CE} = 120 V, I _C = 0.11 A, t = 1 s, SFT5672E				
Turn-on Time	(V _{CC} = 30 V, I _C = 15.0 A, I _{B1} = I _{B2} = 1.2 A)			t _(on)	—	500	ns
Turn-off Time				t _(off)	—	1.5	μs

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