



SOLID STATE DEVICES, INC.
 14830 Valley View Blvd * La Mirada, Ca 90638
 Phone: (562) 404-7855 * Fax: (562) 404-1773

DESIGNER'S DATA SHEET

**SFT501/G and SFT503/G
 SERIES**

**5 AMP
 200 VOLTS
 PNP HIGH SPEED
 POWER TRANSISTOR**

Part Number /Ordering Information ^{1/}

SFT501 / G _ TX
 SFT503 / G _ TX

Screening ^{2/}: _ = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = Space Level

Polarity: _ = Normal
 R = Reverse

Package: ^{3/} G = Cerpack

FEATURES

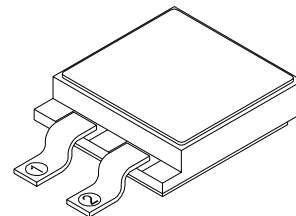
- **BV_{CEO} 150V Minimum**
- **Fast Switching**
- **High Frequency, 80MHz Typical**
- **High Linear Gain (SFT503/G)**
- **Low Saturation Voltage and Leakage**
- **200°C Operating, Gold Eutectic Die Attach**
- **Designed for Complimentary Use with SFT502/G and SFT504/G**

MAXIMUM RATINGS	SYMBOL	VALUE	UNITS
Collector-Base Voltage	V _{CB0}	200	Volts
Collector-Emitter Voltage	V _{CEO}	150	Volts
Emitter-Base Voltage	V _{EBO}	7.0	Volts
Continuous Collector Current	I _C	5.0	Amps
Base Current	I _B	1.0	Amps
Operating and Storage Temperature	T _J , T _{STG}	-65 to +200	°C
Total Device Dissipation @ T _C = 100°C Derate above 100°C	P _D	10 0.10	W W/°C
Thermal Resistance, Junction to Case	R _{θJC}	1.8	°C/W

Available Part Numbers:

SFT501/G
 SFT503/G
 SFT501/GR
 SFT503/GR

Cerpack



PIN ASSIGNMENT

CODE	FUNCTION	BASE	PIN 1	PIN 2
-	Normal	Collector	Emitter	Base
R	Reverse	Collector	Base	Emitter

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

DATA SHEET #: TR0018C

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ELECTRICAL CHARACTERISTICS ^{4/}		SYMBOL	MIN	MAX	UNITS
Collector-Emitter Breakdown Voltage ($I_C = 50\text{mA}$)		BV_{CEO}	150	-	V
Collector-Base Breakdown Voltage ($I_C = 200\ \mu\text{A}$)		BV_{CBO}	200	-	V
Emitter-Base Breakdown Voltage ($I_E = 200\ \mu\text{A}$)		BV_{EBO}	7	-	V
Collector Cutoff Current ($V_{CB} = 100\ \text{V}_{DC}$)		I_{CBO}	-	500	nA
Collector Cutoff Current ($V_{CE} = 100\ \text{V}_{DC}$)		I_{CEO}	-	1	μA
Emitter Cutoff Current ($V_{EB} = 6\ \text{V}_{DC}$)		I_{EBO}	-	500	nA
DC Current Gain* ($V_{CE} = 5.0\text{V}_{DC}$) (SFT501) (SFT503)		h_{FE}	($I_C = 50\ \text{mA}_{DC}$) 20	-	
			($I_C = 2.5\ \text{A}_{DC}$) 30	-	
			($I_C = 5.0\ \text{A}_{DC}$) 20	-	
			($I_C = 50\ \text{mA}_{DC}$) 50	-	
			($I_C = 2.5\ \text{A}_{DC}$) 50	-	
		($I_C = 5.0\ \text{A}_{DC}$) 40	-		
Collector-Emitter Saturation Voltage* ($I_C = 2.5\ \text{A}_{DC}, I_B = 250\ \text{mA}_{DC}$) ($I_C = 5.0\ \text{A}_{DC}, I_B = 500\ \text{mA}_{DC}$)		$V_{CE(SAT)}$	-	0.75 1.5	V_{DC}
Base-Emitter Saturation Voltage* ($I_C = 2.5\ \text{A}_{DC}, I_B = 250\ \text{mA}_{DC}$) ($I_C = 5.0\ \text{A}_{DC}, I_B = 500\ \text{mA}_{DC}$)		$V_{BE(SAT)}$	-	1.3 1.5	V_{DC}
Current Gain Bandwidth Product ($I_C = 500\ \text{mA}_{DC}, V_{CE} = 5\ \text{V}_{DC}, f = 10\ \text{MHz}$)		f_T	70	-	MHz
Output Capacitance ($V_{CB} = 10\ \text{V}_{DC}, I_E = 0\ \text{A}_{DC}, f = 1.0\ \text{MHz}$)		C_{ob}	-	225	pf
Input Capacitance ($V_{BE} = 10\ \text{V}_{DC}, I_C = 0\ \text{A}_{DC}, f = 1.0\ \text{MHz}$)		C_{ib}	-	600	pf
Delay Time	($V_{CC} = 50\ \text{V}_{DC}, I_C = 5\ \text{A}_{DC}, I_{B1} = I_{B2} = 500\ \text{mA}_{DC}$)	t_d	-	50	ns
Rise Time		t_r	-	250	ns
Storage Time		t_s	-	900	ns
Fall Time		t_f	-	300	ns

NOTES:

- * Pulse Test: Pulse Width = 300 μs , Duty Cycle = 2%
- 1/ For Ordering Information, Price, and Availability Contact Factory.
- 2/ Screening per MIL-PRF-19500.
- 3/ For Package Outlines Contact Factory.
- 4/ All Electrical Characteristics @ 25°C, Unless Otherwise Specified.