



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

SFT6233 – SFT6235

Series

5 AMP
250 – 350 Volts
NPN Transistor

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFT6233 _ _ _ _
 SFT6234 _ _ _ _
 SFT6235 _ _ _ _

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

Lead Bend^{3/} _ = Straight Leads
 UB = Up Bend
 DB = Down Bend

Pin Out Configuration^{4/} _ = Normal
 R = Optional

Package^{3/} /66 = TO-66
 M = TO-254
 J = TO-257

Features:

- Switching Power Transistor
- Isolated and Non-isolated Packages Available
- High Power Dissipation: Up to 50W
- Rugged SOA
- Also Available in TO-39, TO-111, and Isolated TO-59, Consult Factory
- Replacement for 2N6233 through 2N6235
- TX, TXV, S-Level Screening Available

Maximum Ratings		Symbol	Value	Unit
Collector – Emitter Voltage	SFT6233	V_{CEO}	225	V
	SFT6234		275	
	SFT6235		325	
Collector – Base Voltage	SFT6233	V_{CBO}	250	V
	SFT6234		300	
	SFT6235		350	
Emitter – Base Voltage		V_{CBO}	6	V
Continuous Collector Current		I_C	5	A
Power Dissipation @ TC = 25°C	TO-66 (/66)	P_D	50	W
	TO-254 (M)		39	
	TO-257 (J)		33	
Operating & Storage Temperature		$T_{OP} \text{ \& } T_{STG}$	-65 to +200	°C
Maximum Thermal Resistance Junction to Case	TO-66 (/66)	$R_{\theta JC}$	3.2	°C/W
	TO-254 (M)		4.5	
	TO-257 (J)		5.3	

NOTES: *Pulsed per MIL-STD-750.

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) and 'J' (TO-257) packages only.

4/ Optional pin out configurations are available for 'M' (TO-254) and 'J' (TO-257) packages only.

5/ Unless otherwise specified, all electrical characteristics @ 25°C.

TO-66 (/66)



TO-254 (M)



TO-257 (J)



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

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SFT6233 – SFT6235 Series

Electrical Characteristics ^{5/}		Symbol	Min	Typ	Max	Unit
Collector – Emitter Sustaining Voltage (I _C = 20 mA)	SFT6233 SFT6234 SFT6235	BV _{CEO}	225 275 325	— — —	— — —	V
Emitter – Cutoff Current	V _{BE} = 6 V	I _{EBO}	—	—	100	μA
Collector – Cutoff Current	SFT6233, V _{CB} = 250 V SFT6234, V _{CB} = 300 V SFT6235, V _{CB} = 350 V	I _{CBO}	—	—	100	μA
Collector – Cutoff Current	SFT6233, V _{CE} = 225 V SFT6234, V _{CE} = 275 V SFT6235, V _{CE} = 325 V	I _{CEO}	—	—	1.0	mA
Collector – Cutoff Current (V _{BE} = -1.5 V, T _C = 150°C)	SFT6233, V _{CE} = 250 V SFT6234, V _{CE} = 300 V SFT6235, V _{CE} = 350 V	I _{CEx}	—	—	1.0	mA
DC Forward Current Transfer Ratio*	V _{CE} = 5 V, I _C = 0.1 A V _{CE} = 5 V, I _C = 1 A V _{CE} = 5 V, I _C = 3 A	h _{FE}	25 15 9	— — —	— 125 —	—
Collector – Emitter Saturation Voltage*	I _C = 5 A, I _B = 1 A I _C = 1.0 A, I _B = 0.1 A	V _{CE(SAT)}	— —	— —	2.5 0.5	V
Base – Emitter Saturation Voltage*	I _C = 5 A, I _B = 1 A I _C = 1.0 A, I _B = 0.1 A	V _{BE(SAT)}	— —	— —	2.0 1.0	V
Base – Emitter On Voltage*	I _C = 1 A, V _{CE} = 5 V	V _{BE(ON)}	—	—	1.0	V
Safe Operating Area (tp = 1 sec)	V _{CE} = 10 V V _{CE} = 45 V	SOA	5.0 1.0	— —	— —	A
Frequency Transition	V _{CE} = 10 V, I _C = 0.25 A, f = 10 MHz	f _T	20	—	—	MHz
Output Capacitance	V _{CE} = 10 V, f = 1 MHz	C _{ob}	—	—	250	pF
Rise Time	V _{CC} = 200 V, I _C = 1.0 A, I _{B1} = 0.1 A	t _r	—	0.5	0.75	μsec
Storage Time	V _{CC} = 200 V, I _C = 1.0 A, I _{B1} = I _{B2} = 0.1 A	t _s	—	3.5	5.0	μsec
Fall Time	V _{CC} = 200 V, I _C = 1.0 A, I _{B1} = I _{B2} = 0.1 A	t _f	—	0.5	0.8	μsec

NOTES: *Pulsed per MIL-STD-750.

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3/ Up and down bend configurations are available for 'M' (TO-254) and 'J' (TO-257) packages only.

4/ Optional pin out configurations are available for 'M' (TO-254) and 'J' (TO-257) packages only.

5/ Unless otherwise specified, all electrical characteristics @ 25°C.

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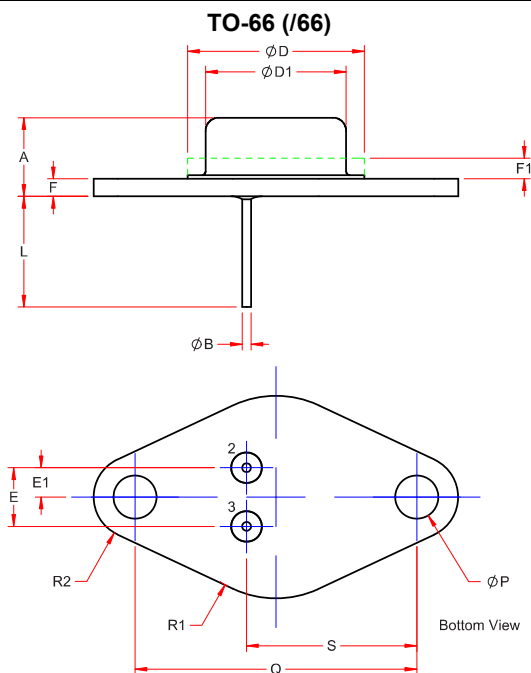


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SFT6233 – SFT6235

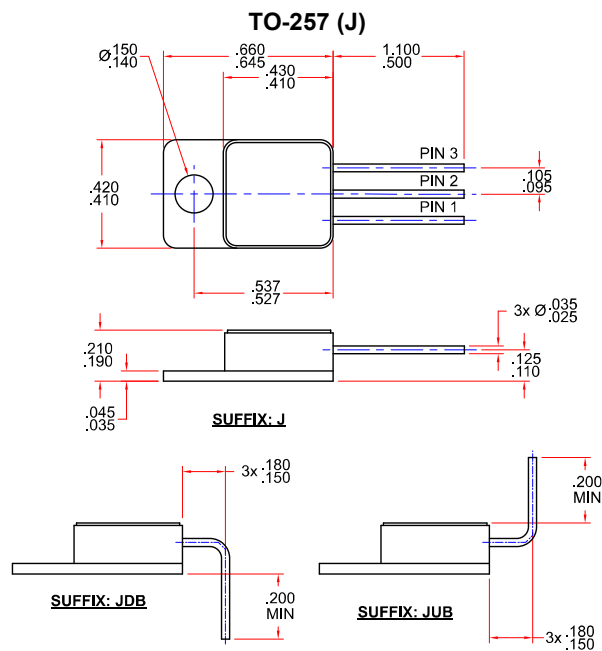
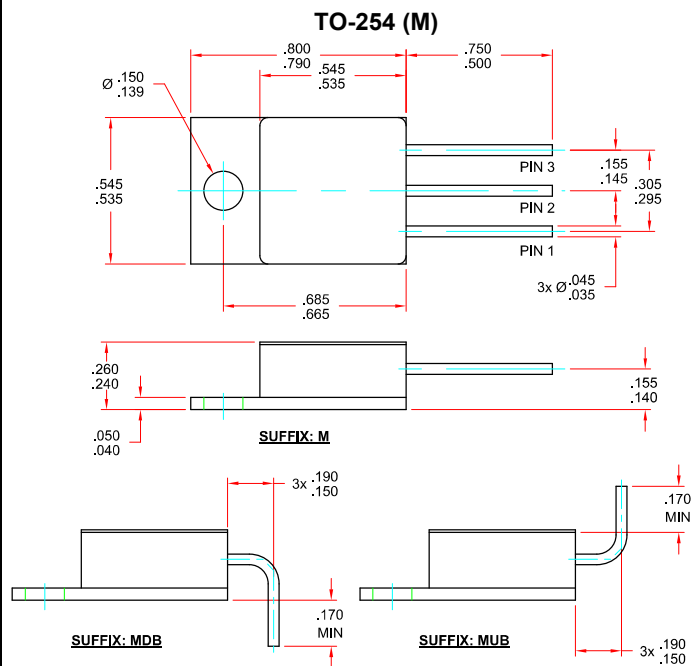
Series



SYMBOL	MIN	MAX	NOTES
A	0.250	0.340	
ϕB	0.028	0.034	
ϕD	—	0.620	
$\phi D1$	0.470	0.500	
E	0.190	0.210	
E1	0.093	0.107	
F	0.050	0.075	2
F1	—	0.050	1
L	0.360	—	
ϕP	0.142	0.152	
Q	0.958	0.962	
R1	—	0.350	
R2	—	0.145	
S	0.570	0.590	

NOTES:

1. The Outline Contour is Optional within Zone defined by ϕD and $F1$.
2. Dimension does NOT Include Sealing Flanges.



Available Part Numbers:

SFT6233/66; SFT6233M; SFT6233J; SFT6233MR; SFT6233JR
SFT6234/66; SFT6234M; SFT6234J; SFT6234MR; SFT6234JR
SFT6235/66; SFT6235M; SFT6235J; SFT6235MR; SFT6235JR

PIN ASSIGNMENT (Standard)

Package	Collector	Emitter	Base
TO-66 (/66)	Case (1)	Pin 2	Pin 3
TO-254 (M)	Pin 1	Pin 2	Pin 3
TO-257 (J)	Pin 1	Pin 2	Pin 3

PIN ASSIGNMENT (Optional)

Package	Collector	Emitter	Base
TO-254 (MR)	Pin 2	Pin 3	Pin 1
TO-257 (JR)	Pin 2	Pin 3	Pin 1

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