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

SFT6036 series

DESIGNER'S DATA SHEET

4 AMP
PNP Darlington Power Transistor
80 Volts

Part Number / Ordering Information[1/]

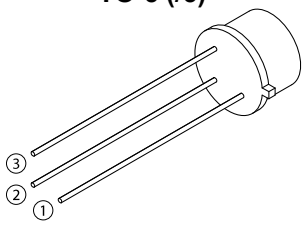
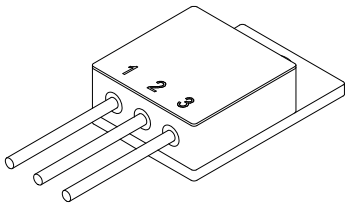
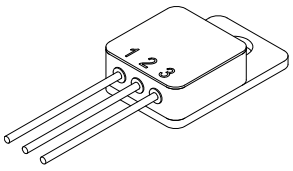
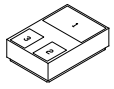
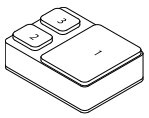
SFT6036

Screening[2/]
- __ = Not Screened
- TX = TX Level
- TXV = TXV Level
- S = S Level

Package
- /5 = TO-5
- M = TO-254
- J = TO-257
- S.3 = SMD.3
- S.5 = SMD.5

Features:
- BV_{CEO} to 80 Volts
- Low saturation voltage
- Very low leakage
- 200°C operating temperature
- Gold eutectic die attach
- Complement for SFT6039
- Available with TO-5, TO-254, TO-257, SMD.3 and SMD.5 Cases
- TX, TXV, and S Level Screening Available[2/]

Maximum Ratings[3/]		Symbol	Values	Units
Collector – Emitter Voltage		V_{CEO}	80	**Volts**
Collector – Base Voltage		V_{CBO}	80	**Volts**
Emitter – Base Voltage		V_{EBO}	5	**Volts**
Collector Current		$I_{C\ cont}$ $I_{C\ pk}$	4 8	**Amps**
Base Current		I_B	0.1	**Amps**
Total Power Dissipation @ T_C = 100ºC	TO-5 TO-254 TO-257 SMD.3 SMD.5	P_D	- 20 20 28.5 31	**Watts**
Operating & Storage Temperature		T_J & T_{STG}	-65 to 200	**ºC**
Thermal Resistance (Junction to Case)	TO-5 TO-254 TO-257 SMD.3 SMD.5	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JC}$ $R_{\theta JC}$ $R_{\theta JC}$	175 5 5 3.5 3.2	**ºC/W**

TO-5 (/5)	TO-254 (M)	TO-257 (J)	SMD.3 (S.3)	SMD.5 (S.5)
				

NOTES:
1/ For ordering information, price, operating curves, and availability - contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.
3/ Unless otherwise specified, maximum ratings/electrical characteristics at 25°C.

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Electrical Characteristics[3/]		Symbol	Min	Typ	Max	Units
Collector – Emitter Breakdown Voltage*	I_C = 100 mA	BV_{CEO}	80	95	-	Volts
Collector – Emitter Cutoff Current,	V_{CE} = 80V, I_B = 0	I_{CEO}	-	0.05	100	uA
Collector – Emitter Cutoff Current	V_{CE} = 80V, $V_{BE\ (off)}$= 1.5V V_{CE} = 80V, $V_{BE\ (off)}$= 1.5V, T_C= 125ºC	I_{CEX}	- -	0.05 12.5	100 500	uA
Collector Cutoff Current	V_{CB} = 80V	I_{CBO}	-	0.05	500	uA
Emitter Cutoff Current	(V_{BE} = 5V)	I_{EBO}		0.65	2	mA
DC Current Gain*	(I_C = 0.5A, V_{CE} = 3V) (I_C = 2A, V_{CE} = 3V) (I_C = 4A, V_{CE} = 3V)	H_{FE}	500 750 100	4,000 3,800 900	- 15,000 -	
Collector-Emitter Saturation Voltage*	I_C = 2A, I_B = 8mA I_C = 4A, I_B = 40mA	$V_{CE\ (SAT)1}$ $V_{CE\ (SAT)2}$	- -	1.1 1.6	2 3	V
Base-Emitter Saturation Voltage*	I_C = 4A, I_B = 40mA	$V_{BE\ (SAT)2}$	-	2.25	4	V
Base-Emitter Voltage	I_C = 2A, V_{CE} = 3V	$V_{BE\ (ON)}$	-	1.65	2.8	V
Small Signal Current Gain	I_C = 0.75A, V_{CE} = 10V, f = 1MHz	h_{fe}	25	1400	-	
Output Capacitance	V_{CB} = 15V, I_E = 0A, f = 2.0MHz	C_{ob}	-	40	200	pF

Electrical Characteristics[3/]		Symbol	Typical	Units
Delay Time	V_{CC}= -30V	t_d	45	ns
Rise Time	I_C= 4A	t_r	200	ns
Storage Time	I_{B1} = I_{B2} = 16mA	t_s	600	ns
Fall Time		t_f	450	ns

Notes: * Pulse Test: Pulse Width = 300 µs. Duty Cycle = 2%.

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3/ Unless otherwise specified, maximum ratings/electrical characteristics at 25°C.

PIN ASSIGNMENT (Standard)

Package	Collector	Emitter	Base
TO-5 (/5)	3	1	2
TO-254(M)	1	2	3
TO-257(J)	1	2	3
SMD.3 (S.3)	1	2	3
SMD.5 (S.5)	1	2	3

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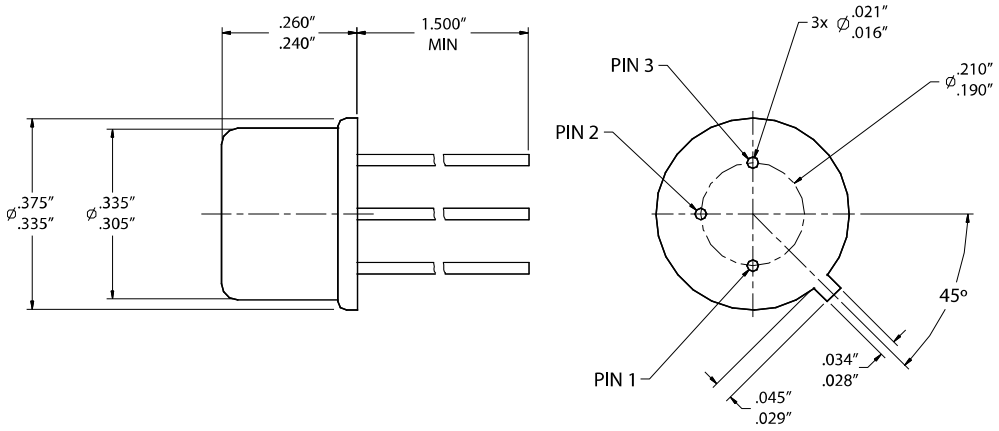
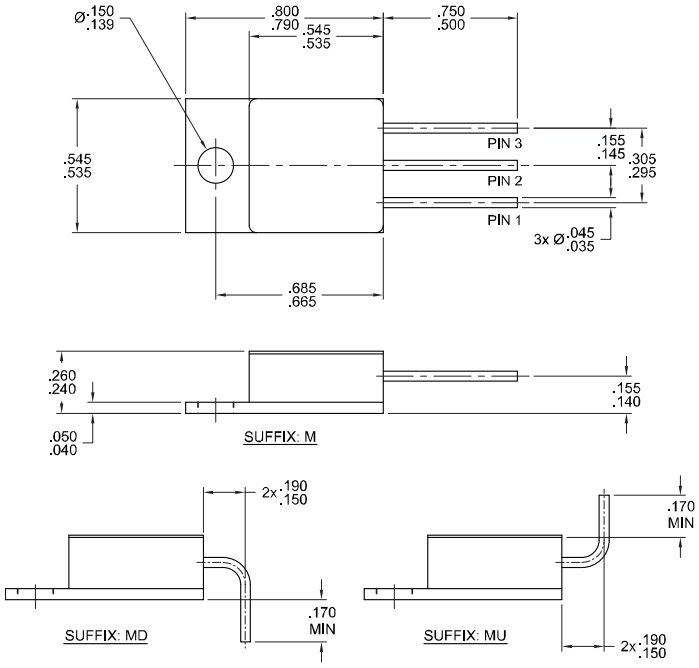
CASE OUTLINES

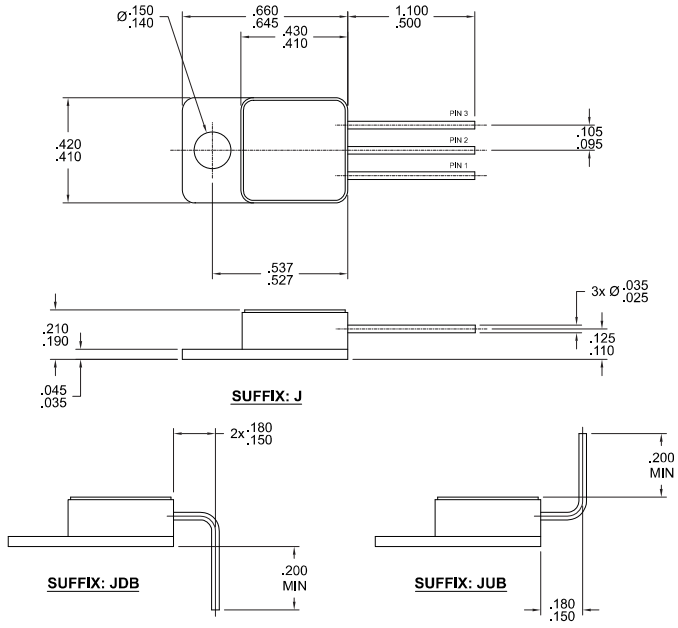
TO-5 (/5):



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.	**DATA SHEET #: TR0120A**	**DOC**

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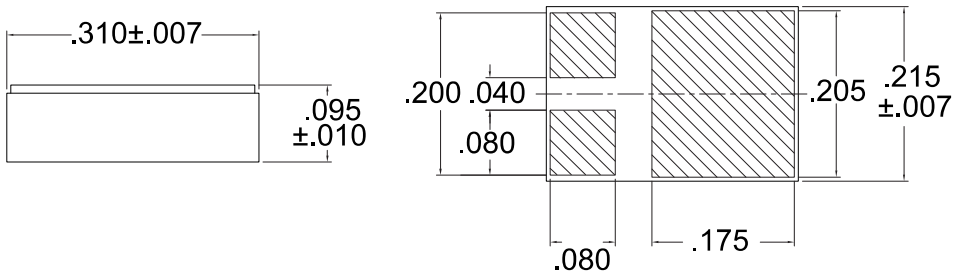
CASE OUTLINES

SMD.3 (S.3):



SMD.5 (S.5):