



SOLID STATE DEVICES, INC.

14830 Valley View Blvd * La Mirada, Ca 90638
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SFT6338 - SFT6341 SERIES

25 AMP 100 - 150 VOLTS NPN HIGH SPEED POWER TRANSISTOR

DESIGNER'S DATA SHEET

Part Number /Ordering Information ^{1/}

SFT6338 M - TX
 SFT6339 M - TX
 SFT6340 M - TX
 SFT6341 M - TX

Screening ^{2/}: _ = Not Screened

TX = TX Level
 TXV = TXV Level
 S = Space Level

Lead Bend ^{3/4/} _ = Straight

UB = Up Bend
 DB = Down Bend

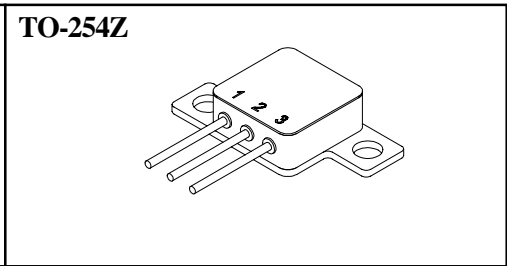
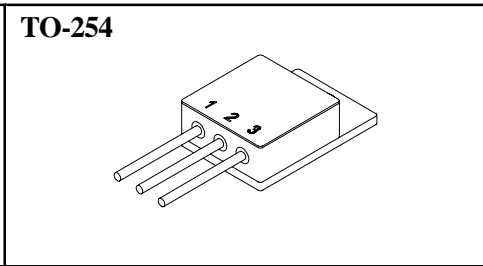
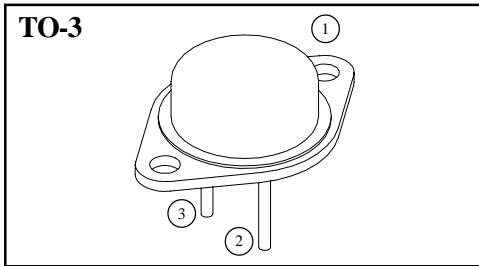
Package: ^{3/} M = TO-254

Z = TO-254Z
 /3 = TO-3

APPLICATION NOTES:

- Replaces Industry Standard 2N6338 thru 2N6341
- Designed for High Voltage, High Speed, Power Switching Applications Such as:
 - Off-Line Supplies
 - Converter Circuits
 - Pulse Width Modulated Regulators
 - Motor Controls
 - Deflection Circuits
- Designed for Complimentary Use with SFT6436 thru SFT6438

MAXIMUM RATINGS		SYMBOL	VALUE	UNITS
Collector-Emitter Voltage	SFT6338	V _{CEO}	100	Volts
	SFT6339		120	
	SFT6340		140	
	SFT6341		150	
Collector-Base Voltage	SFT6338	V _{CB0}	120	Volts
	SFT6339		140	
	SFT6340		160	
	SFT6341		180	
Continuous Collector Current		I _C	25	Amps
Peak Collector Current		I _{C(pk)}	50	Amps
Continious Base Current		I _B	10	Amps
Operating and Storage Temperature		T _J , T _{STG}	-65 to +200	°C
Total Device Dissipation @ T _C = 25°C Derate above 25°C		P _D	200	W
			1.14	W/°C
Thermal Resistance, Junction to Case		R _{θJC}	1.0	°C/W



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

DATA SHEET #: TR0025A

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ELECTRICAL CHARACTERISTICS ^{5/}		SYMBOL	MIN	MAX	UNITS
Collector Cutoff Current (V _{CE} Rated V _{CEO} , V _{BE} = 1.5V _{DC})	(T _C = 25°C)	I_{CEX}	-	10	mA
	(T _C = 150°C)		-	1.0	mA
Collector Cutoff Current (V _{CB} Rated V _{CBO} , I _E = 0)		I_{CBO}	-	10	mA
Emitter Cutoff Current (V _{EB} = 6V _{DC} , I _C = 0)		I_{EBO}	-	100	mA
Collector-Emitter Sustaining Voltage * (I _C = 50mA, I _B = 0)	SFT6338	V_{CEO(sus)}	100	-	V_{DC}
	SFT6339		120		
	SFT6340		140		
	SFT6341		150		
DC Current Gain * (V _{CE} = 2.0V _{DC})	(I _C = 0.5A _{DC})	h_{FE}	50	-	
	(I _C = 10A _{DC})		30	120	
	(I _C = 25A _{DC})		12	-	
Base-Emitter Saturation Voltage*	(I _C = 10A _{DC} , I _B = 1A _{DC})	V_{BE (SAT)}	-	1.8	V_{DC}
	(I _C = 25A _{DC} , I _B = 2.5A _{DC})		-	2.5	
Collector-Emitter Saturation Voltage*		V_{CE (SAT)}	-	1.0	V_{DC}
(I _C = 10A _{DC} , I _B = 1A _{DC})			-	1.8	
Current Gain (I _C = 1A, V _{CE} = 10V _{DC} , f = 10MHz)		 h_{fe} 	4	-	
Output Capacitance (I _E = 0, V _{CB} = 10V _{DC} , f = 0.1MHz)		C_{ob}	-	300	pf
Rise Time	(V _{CC} = 80V _{DC} , I _C = 10A _{DC} , V _B = 6V _{DC} I _{B1} = I _{B2} = 1A _{DC} , R _L = 8W, t _p = 10msec, Duty Cycle ≤ 1%)	t_r	-	0.3	msec
Storage Time		t_s	-	1.0	msec
Fall Time		t_f	-	0.25	msec

NOTES:

- * Pulse Test: Pulse Width = 300us, 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/ Up and Down Bend Configurations Available for M and Z (TO-254 and TO-254Z) Packages Only.
- 5/ All Electrical Characteristics @25°C, Unless Otherwise Specified.

Available Part Numbers:

SFT6338/3	SFT6338M	SFT6338Z
SFT6339/3	SFT6339M	SFT6339Z
SFT6340/3	SFT6340M	SFT6340Z
SFT6341/3	SFT6341M	SFT6341Z

PIN ASSIGNMENT

PACKAGE	Collector	Emmitter	Base
TO-3	Case (1)	Pin 2	Pin 3
TO-254	Pin 1	Pin 2	Pin 3
TO-254Z	Pin 1	Pin 2	Pin 3