



SOLID STATE DEVICES, INC.

14830 Valley View Avenue * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773

SFT5666/39

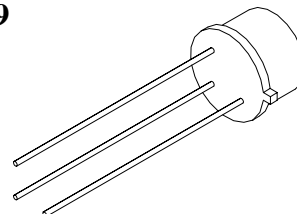
**5 AMP
180 VOLTS
HIGH SPEED
NPN TRANSISTOR**

DESIGNER'S DATA SHEET

FEATURES:

- High Performance replacement for 2N5666
- Radiation Tolerant
- Faster Switching, $t_{(on)} < 150ns$
- Higher Frequency, $f_t > 30MHz$
- Higher gain, 40 @ 5A
- Lower Saturation Voltage, 1.5v @ 5A
- 200°C Operating, Gold Eutectic Die Attach
- PNP Compliment available - contact the factory

TO-39



MAXIMUM RATINGS	SYMBOL	VALUE	UNITS
Collector-Emitter Voltage	V_{CEO}	180	Volts
Collector-Base Voltage	V_{CBO}	200	Volts
Emitter-Base Voltage	V_{EBO}	6	Volts
Collector Current	I_C	5	Amps
Base Current	I_B	1	Amps
Total Device Dissipation @ $T_C=100^\circ C$	P_D	15	W
Operating and Storage Temperature	T_J, T_{STG}	-65 to +200	$^\circ C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	20	$^\circ C/W$

ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	MAX	UNITS
Collector-Emitter Breakdown Voltage ($I_C = 30mA_{DC}$)	BV_{CEO}	180	-	V
Collector-Base Breakdown Voltage ($I_C = 200\mu A_{DC}$)	BV_{CBO}	200	-	V
Emitter-Base Breakdown Voltage ($I_E = 200\mu A_{DC}$)	BV_{EBO}	6	-	V
Collector Cutoff Current ($V_{CB} = 180V_{DC}$)	I_{CBO}	-	2	μA
Collector Cutoff Current ($V_{CE} = 120V_{DC}$)	I_{CEO}	-	10	μA

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

DATA SHEET #: TR0027A

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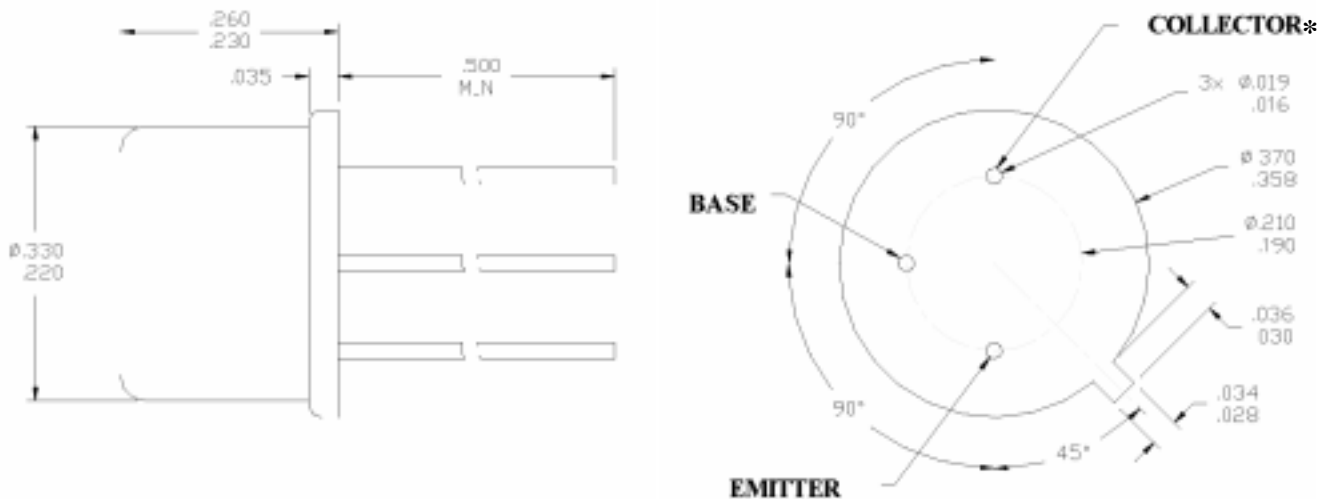
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ELECTRICAL CHARACTERISTICS		SYMBOL	MIN	MAX	UNITS
Emitter Cutoff Current ($V_{EB} = 6V_{DC}$)		I_{EBO}	-	1	μA
DC Current Gain * ($I_C = 0.5A_{DC}$, $V_{CE} = 2V_{DC}$) ($I_C = 1.0A_{DC}$, $V_{CE} = 5V_{DC}$) ($I_C = 2.0A_{DC}$, $V_{CE} = 5V_{DC}$) ($I_C = 3.0A_{DC}$, $V_{CE} = 5V_{DC}$) ($I_C = 5.0A_{DC}$, $V_{CE} = 5V_{DC}$)		H_{FE}	40 40 40 40 30	250	
Collector-Emitter Saturation Voltage * 5A 5V Mins ($I_C = 3.0A_{DC}$, $I_B = 300mA_{DC}$) ($I_C = 5.0A_{DC}$, $I_B = 1A$)		$V_{CE(SAT)}$		0.40 1.5	V_{DC}
Base-Emitter Voltage * ($I_C = 5.0A_{DC}$, $I_{BC} = 3A$, $I_B = .3A$) ($I_B = 1A$)		$V_{BE(SAT)}$	-	1.2 1.5	V_{DC}
Current Gain Bandwidth Product ($I_C = .5A_{DC}$, $V_{CE} = 10V_{DC}$, $f = 10MHz$)		ft	30	-	MHz
Output Capacitance ($V_{CB} = 30V_{DC}$, $I_E = 0A_{DC}$, $f = 1.0MHz$)		C_{ob}	-	120	pf
Turn On Time	($V_{CC} = 30V_{DC}$, $I_C = 1.0A_{DC}$, $V_{EB(OFF)} = 3.7V_{DC}$, $I_{B1} = I_{B2} = 50mA_{DC}$)	$t_{(on)}$		150	ns
Turn Off Time		$t_{(off)}$		1500	ns

*Pulse Test: Pulse Width = 300us, Duty Cycle = 2%

CASE OUTLINE: TO-39



*Collector Hot to Case