



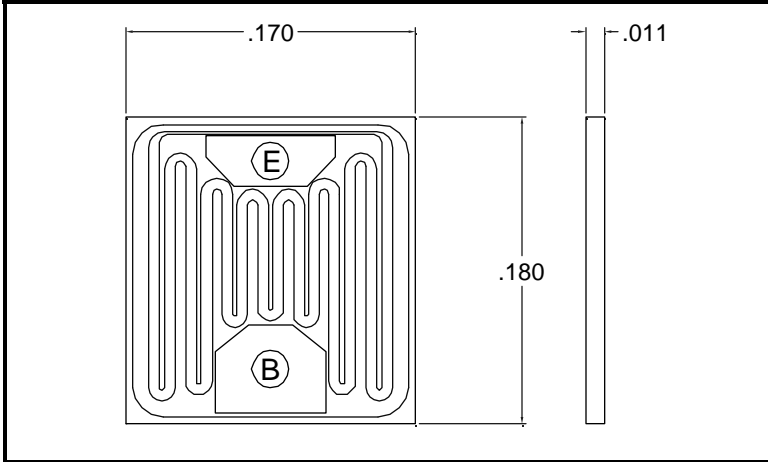
Solid State Devices, Inc.

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2SPT6341SD

**MultiEpitaxial Planar
NPN Power Transistor Die**

DESIGNER'S DATA SHEET



- Features:**
- Recommended replacement for the 2N6338 – 6341 series
 - Die Size: 170 x 180 Mils
 - Die Thickness: 260 – 330 μm
 - Bonding Area:
 - Emitter: 30 x 60 Mils
 - Base: 40 x 50 Mils
 - Maximum Recommended Wire Bonding:
 - Emitter: Al (15 Mils Dia)
 - Base: Al (15 Mils Dia)
 - Metallization:
 - Top: 60,000 \AA Al
 - Bottom: 5,500 \AA Au / Cr / Ni / Au

Maximum Ratings ^{4/}	Symbol	Value	Units
Collector – Emitter Voltage	V_{CEO}	125	Volts
Collector – Base Voltage	V_{CBO}	180	Volts
Emitter – Base Voltage	V_{EBO}	6	Volts
Continuous Collector Current	I_C	25	Amps
Peak Collector Current	$I_{C\text{max}}$	50	Amps
Continuous Base Current	I_B	10	Amps
Power Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	200 1.143	W W/ $^\circ\text{C}$
Operating & Storage Temperature	Top & Tstg	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance	Junction to Case $R_{\theta JC}$	0.875	$^\circ\text{C/W}$

Electrical Characteristic ^{4/}	Symbol	Min	Typ	Max	Units
Collector – Emitter Breakdown Voltage $I_C = 50\text{mA}$	$BV_{CEO}^{3/}$	125	135	—	Volts
Collector – Cutoff Current $V_{CE} = 125\text{V}; V_{BE} = 1.5\text{V}$ $V_{CE} = 125\text{V}; V_{BE} = 1.5\text{V}; T = 150^\circ\text{C}$	$I_{CEX}^{3/}$	—	0.020 —	10 1	μA mA
Collector – Cutoff Current $V_{CB} = 180\text{V}$	$I_{CBO1}^{3/}$	—	0.020	10	μA
Emitter – Cutoff Current $V_{EB} = 6\text{V}$	$I_{EBO}^{3/}$	—	0.001	100	μA
DC Current Gain *	$h_{FE1}^{3/}$ $h_{FE2}^{3/}$ h_{FE3}	50 30 12	120 185 120	— 220 —	—
Collector – Emitter Saturation Voltage* $I_C = 10\text{A}, I_B = 1\text{A}$ $I_C = 25\text{A}, I_B = 2.5\text{A}$	$V_{CE(Sat)}$	— —	0.35 0.93	1.0 1.8	Volts
Base – Emitter Saturation Voltage* $I_C = 10\text{A}, I_B = 1\text{A}$ $I_C = 25\text{A}, I_B = 2.5\text{A}$	$V_{BE(Sat)}$	— —	1.13 1.73	1.8 2.5	Volts



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Electrical Characteristic ^{4/}		Symbol	Min	Typ	Max	Units
Current Gain Bandwidth Product	$V_{CE} = 10V, I_C = 1A, f = 10MHz$	f_T	4	6.5	—	MHz
Output Capacitance	$V_{CB} = 10V, I_E = 0A, f = 100kHz$	c_{ob}	—	220	300	pF
Switching Time	$V_{CC} = 80V, I_C = 10A, I_{B1} = I_{B2} = 1A$	Rise Time t_r	—	60	300	nsec
		Storage Time t_s	—	2000	2500	nsec
		Fall Time t_f	—	110	250	nsec

NOTES:

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

1/ For Ordering Information, Price, Availability Contact Factory.

2/ Screening per MIL-PRF-19500 available

3/ 100% die probe tests.

4/ Unless Otherwise Specified, All Electrical Characteristics @25°C as applies to Die in TO-3 Package