

HIGH-POWER NPN SILICON POWER TRANSISTORS

...designed for use in general-purpose amplifier and switching application.

FEATURES

- * Recommend for 100W High Fidelity Audio Frequency Amplifier Output stage
- * complementary 2SB555

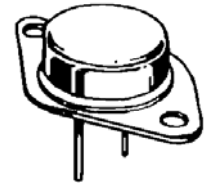
**NPN
2SD425**

**12 AMPERES
POWER
TRANSISTOR**

**140 VOLTS
100 WATTS**

MAXIMUM RATINGS

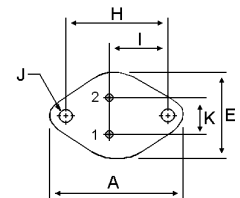
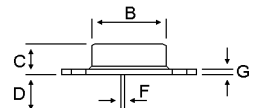
Rating	Symbol	2SD425	Unit
Collector-Emitter Voltage	V_{CEO}	140	V
Collector-Base Voltage	V_{CBO}	140	V
Emitter-Base Voltage	V_{EB}	5.0	V
Collector Current	I_C	12	A
Emitter Current	I_E	12	A
Total Device Dissipation @ $T_c=25^\circ\text{C}$	P_D	100	W
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$



TO-3

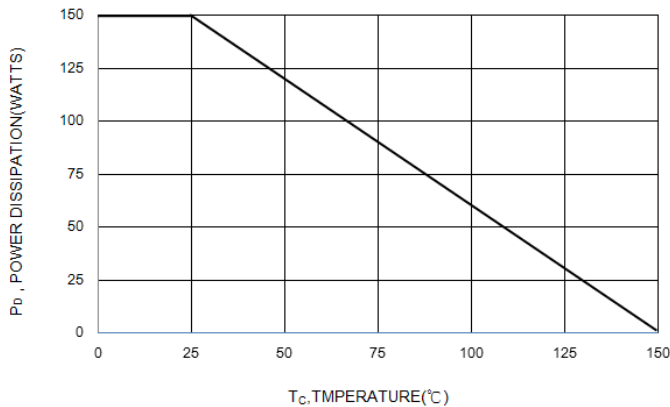
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta JC}$	1.75	$^\circ\text{C/W}$



PIN 1 BASE
2 EMITTER
COLLECTOR(CASE)

FIGURE-1 POWER DERATING



DIM	MILLIMETERS	
	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min.	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C = 100\text{ mA}$, $I_B = 0$)	$V_{(BR)CEO}$	140		V
Emitter-Base Breakdown Voltage ($I_E = 10\text{ mA}$, $I_C = 0$)	$V_{(BR)EBO}$	5		V
Collector-Cutoff Current ($V_{CB} = 50\text{ V}$, $I_E = 0$)	I_{CBO}		0.1	mA
Emitter Cutoff Current ($V_{BE} = 5.0\text{ V}$, $I_C = 0$)	I_{EBO}		0.1	mA

ON CHARACTERISTICS(1)

DC current gain ($I_C = 2.0\text{ A}$, $V_{CE} = 5.0\text{ V}$)	h_{FE}	40	140	
Collector-Emitter Saturation Voltage ($I_C = 7.0\text{ A}$, $I_B = 0.7\text{ A}$)	$V_{CE(sat)}$		3.0	V
Base-Emitter On Voltage ($I_C = 7.0\text{ A}$, $V_{CE} = 5.0\text{ V}$)	$V_{BE(on)}$		2.5	V

DYNAMIC CHARACTERISTICS

Current-Gain-Bandwidth Product ($I_C = 2.0\text{ A}$, $V_{CE} = 5.0\text{ V}$ $f = 1.0\text{ MHz}$)	f_T	5.0(typ)		MHz
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(1) Pulse test: Pulse Width $\leq 300\text{ s}$, Duty Cycle $\leq 2.0\%$

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