

## 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 to 2SB554

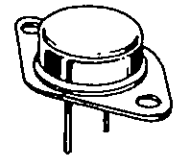
**NPN  
2SD424**

**15 AMPERE  
POWER  
TRANSISTOR**

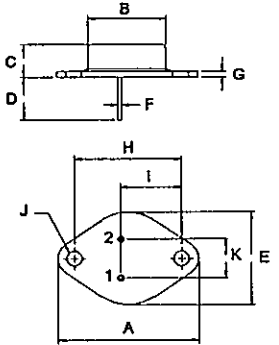
**180 VOLTS  
150 WATTS**

### MAXIMUM RATINGS

Characteristic	Symbol	2SD424	Unit
Collector-Emitter Voltage	$V_{CEO}$	180	V
Collector-Base Voltage	$V_{CBO}$	180	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous - Peak	$I_C$ $I_{CM}$	15 18	A
Base current	$I_B$	3.0	A
Total Power Dissipation @ $T_C = 25^\circ C$ Derate above $25^\circ C$	$P_D$	150 1.2	W W/ $^\circ C$
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ C$



**TO-3**

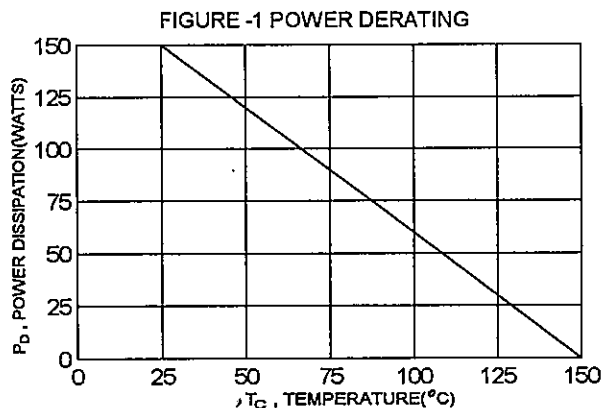


PIN 1.BASE  
2.EMITTER  
COLLECTOR(CASE)

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

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	0.83	$^\circ C/W$



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 ( $I_C = 50\text{ mA}$ , $I_B = 0$ )	$V_{(BR)CEO}$	180		V
Collector Cutoff Current ( $V_{CB} = 180\text{ V}$ , $I_E = 0$ )	$I_{CBO}$		100	$\mu\text{A}$
Emitter Cutoff Current ( $V_{EB} = 5.0\text{ V}$ , $I_C = 0$ )	$I_{EBO}$		100	$\mu\text{A}$

## ON CHARACTERISTICS (1)

DC Current Gain ( $I_C = 2.0\text{ A}$ , $V_{CE} = 5.0\text{ V}$ )	hFE	40	140	
Collector-Emitter Saturation Voltage ( $I_C = 10\text{ A}$ , $I_B = 1.0\text{ A}$ )	$V_{CE(sat)}$		3.0	V
Base-Emitter On Voltage ( $I_C = 10\text{ A}$ , $V_{CE} = 5.0\text{ V}$ )	$V_{BE(on)}$		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 = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ 

\* hFE(2) Classification :

40	R	80	70	O	140
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