

## HORIZONTAL DEFLECTION TRANSISTORS

...designed for use in large screen color deflection circuits

### FEATURES:

\* Collector-Emitter Sustaining Voltage

$$V_{CE(sus)} = 600V(\text{Min})$$

\* Fast Switching Time

$$t_f = 0.8 \mu s @ I_C = 5.0A$$

\* Glass Passivated Collector-Base Junction

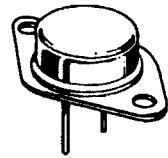
**NPN**

**2SC1325A**

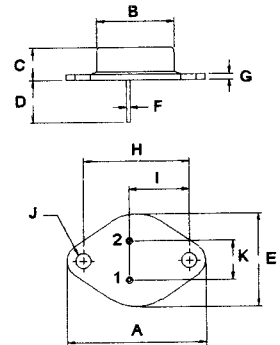
**6.0 AMPERE  
NPN SILICON  
POWER TRANSISTORS  
1500 VOLTS  
80 WATTS**

### MAXIMUM RATINGS

Characteristic	Symbol	2SC1325A	Unit
Collector-Emitter Voltage	$V_{CEO}$	600	V
Collector-Base Voltage	$V_{CBO}$	1500	V
Emitter-Base Voltage	$V_{EBO}$	6.0	V
Collector Current - Continuous - Peak	$I_C$ $I_{CM}$	6.0 12	A
Base current	$I_B$	2.0	A
Total Power Dissipation @ $T_C = 25^\circ C$ Derate above $25^\circ C$	$P_D$	80 0.64	W W/ $^\circ C$
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ C$



**TO-3**

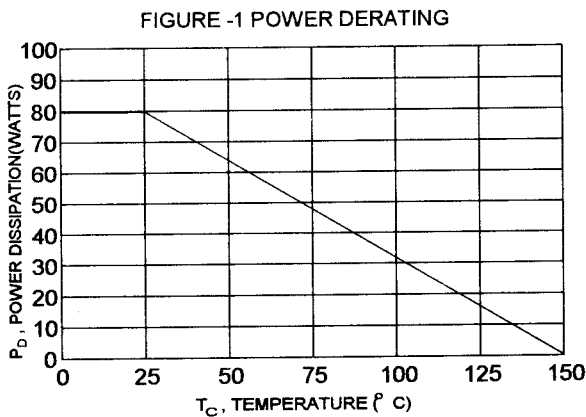


PIN 1.BASE  
2.EMITTER  
COLLECTOR(CASE)

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	$R_{\theta jc}$	1.56	$^\circ C/W$



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

Characteristic	Symbol	Min	Max	Unit
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**OFF CHARACTERISTICS**

Collector-Emitter Voltage ( $I_C = 100\text{ mA}$ , $I_B = 0$ )	$V_{CE0}$	600		V
Collector Cutoff Current ( $V_{CE} = 1500\text{ V}$ , $V_{BE} = 0$ )	$I_{CES}$		1.0	mA
Collector Cutoff Current ( $V_{CB} = 1000\text{ V}$ , $I_E = 0$ )	$I_{CBO}$		20	$\mu\text{A}$
Emitter Cutoff Current ( $V_{EB} = 5.0\text{ V}$ , $I_C = 0$ )	$I_{EBO}$		200	$\mu\text{A}$

**ON CHARACTERISTICS (1)**

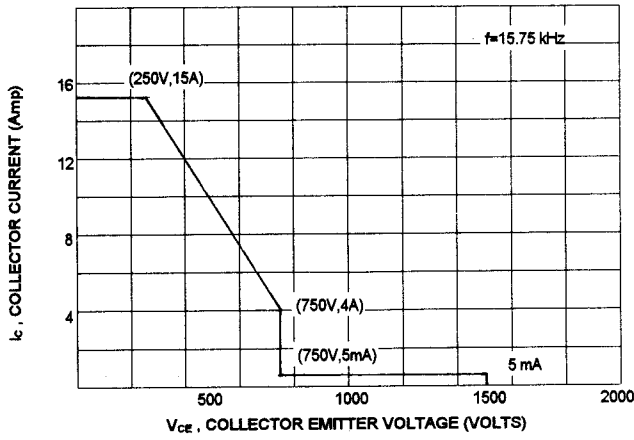
DC Current Gain ( $I_C = 1.0\text{ A}$ , $V_{CE} = 15\text{ V}$ ) ( $I_C = 5.0\text{ A}$ , $V_{CE} = 15\text{ V}$ )	hFE	10 5.0	45 35	
Collector-Emitter Saturation Voltage ( $I_C = 5.0\text{ A}$ , $I_B = 1.2\text{ A}$ )	$V_{CE(sat)}$		4.0	V
Base-Emitter Saturation Voltage ( $I_C = 5.0\text{ A}$ , $I_B = 1.2\text{ A}$ )	$V_{BE(sat)}$		1.1	V

**SWITCHING CHARACTERISTICS**

Storage Time	$I_C = 5.0\text{ A}$ , $I_{B1} = -I_{B2} = 1.0\text{ A}$ $P_w = 20\mu\text{ s}$	$t_s$	10	$\mu\text{ s}$
Fall Time		$t_f$	0.8	$\mu\text{ s}$

(1) Pulse Test: Pulse Width  $\approx 300\mu\text{ s}$ , Duty Cycle  $\leq 2.0\%$

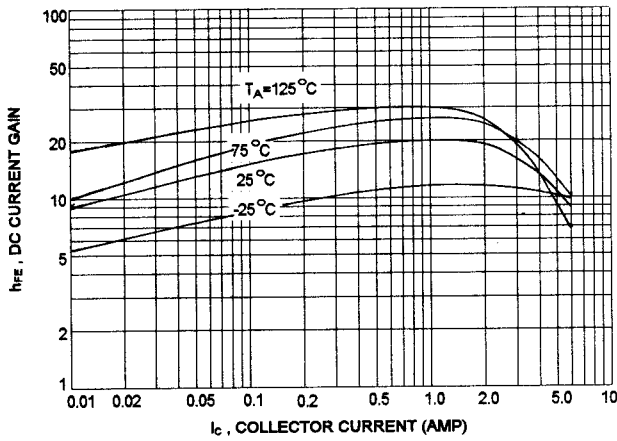
ACTIVE-REGION SAFE OPERATING AREA (SOA)



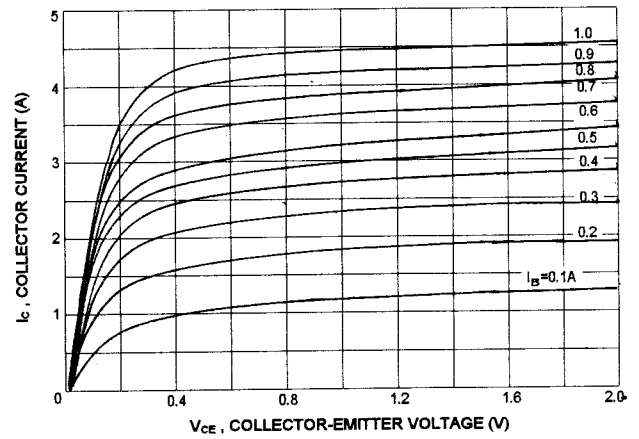
There are two limitation on the power handling ability of a transistor: average junction temperature and second breakdown safe operating area curves indicate  $I_C$ - $V_{CE}$  limits of the transistor that must be observed for reliable operation i.e., the transistor must not be subjected to greater dissipation than curves indicate.

The data of SOA curve is base on  $T_{J(PK)} = 150^\circ\text{C}$ ;  $T_C$  is variable depending on conditions. second breakdown safe operating area curves indicate  $I_C$ - $V_{CE}$  limits of the transistor that must be observed for reliable operation i.e., the transistor must not be subjected to greater dissipation than curves indicate.

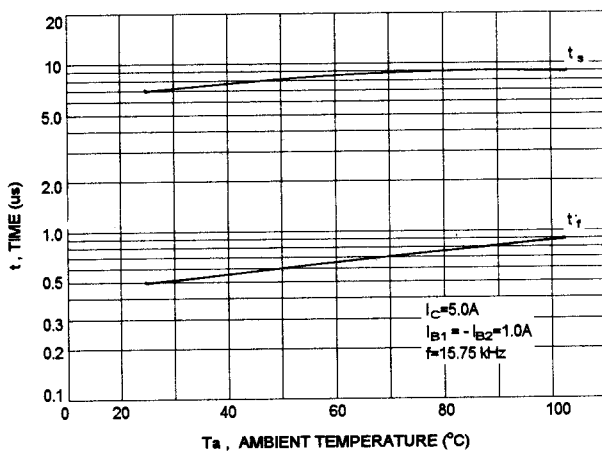
DC CURRENT GAIN



$I_C$  -  $V_{CE}$



SWITCHING TIME- AMBIENT TEMPERATURE



COLLECTOR SATURATION REGION

