

# 2SC1325A

## SILICON NPN TRANSISTOR

### FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

### MAXIMUM RATINGS

Parameter	Symbol	2SC1325A	Unit
Collector-base voltage	$V_{CBO}$	1500	V
Collector-emitter voltage	$V_{CEO}$	600	V
Emitter-base voltage	$V_{EBO}$	6.0	V
Collector current – continuous	$I_C$	6.0	A
Collector current – peak	$I_{CM}$	12	A
Base current	$I_B$	2.0	A
Total power dissipation Derate above 25°C	$P_D$	80 0.64	W W/°C
Junction and storage temperature range	$T_J, T_{stg}$	-65 to 150	°C
Thermal resistance, junction to case	$R_{\theta JC}$	1.56	°C/W

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

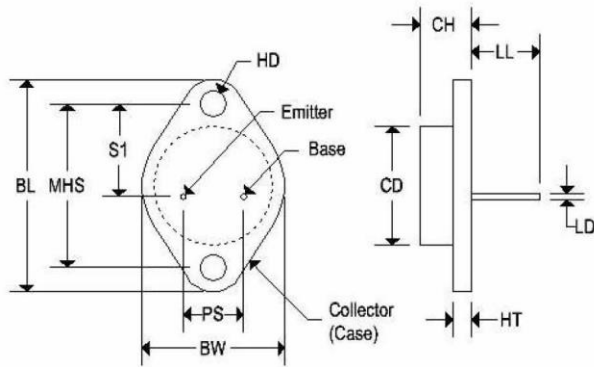
Parameter	Symbol	Conditions	2SC1325A		Unit
			Min	Max	
Collector-emitter voltage	$V_{CEO}$	$I_C = 100\text{mA}, I_B = 0$	600	-	V
Collector cutoff current	$I_{CEO}$	$V_{CE} = 1500\text{V}, V_{BE} = 0$	-	1.0	mA
Collector cutoff current	$I_{CBO}$	$V_{CE} = 1500\text{V}, I_E = 0$	-	20	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$	-	200	$\mu\text{A}$
DC current gain	$h_{FE}$	$I_C = 1.0\text{A}, V_{CE} = 15\text{V}$	10	45	-
		$I_C = 5.0\text{A}, V_{CE} = 15\text{V}$	5.0	35	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 5.0\text{A}, I_B = 1.2\text{mA}$	-	4.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 5.0\text{A}, I_B = 1.2\text{mA}$	-	1.1	V
Storage time	$t_s$	$I_C = 5.0\text{A}, I_{B1} = -I_{B2} = 1.0\text{A}, P_w = 20\mu\text{sw}$	-	10	$\mu\text{s}$
Fall time	$t_f$		-	0.8	$\mu\text{s}$

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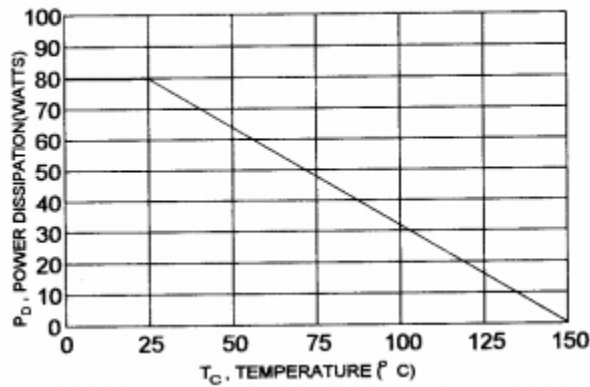
## MECHANICAL CHARACTERISTICS

Case:	TO-3
Marking:	Alpha-Numeric
Polarity:	See below



	TO-3			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.380	6.860	9.650
HT	0.060	0.135	1.520	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150

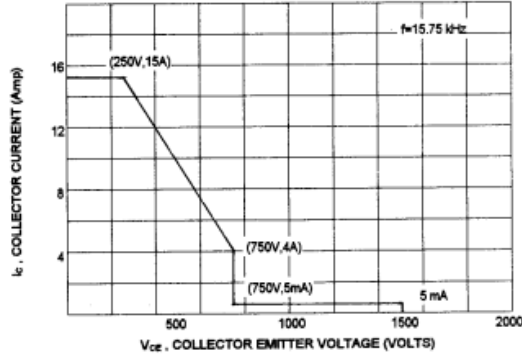
FIGURE -1 POWER DERATING



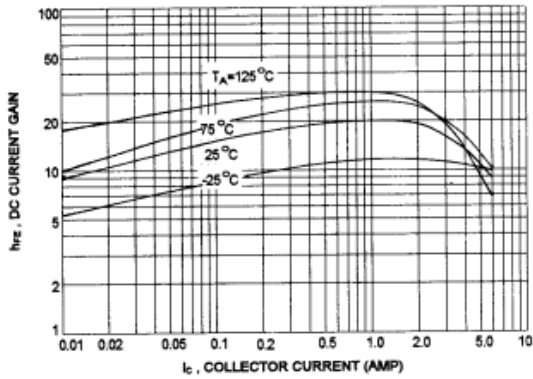
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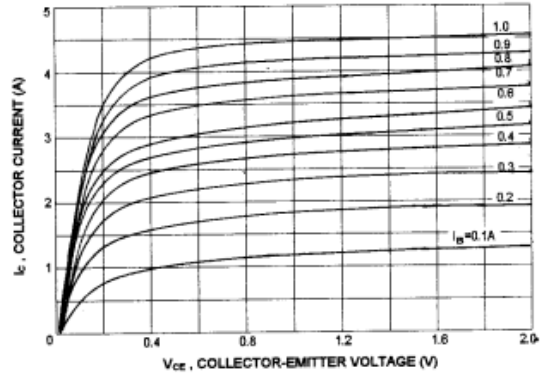
ACTIVE-REGION SAFE OPERATING AREA (SOA)



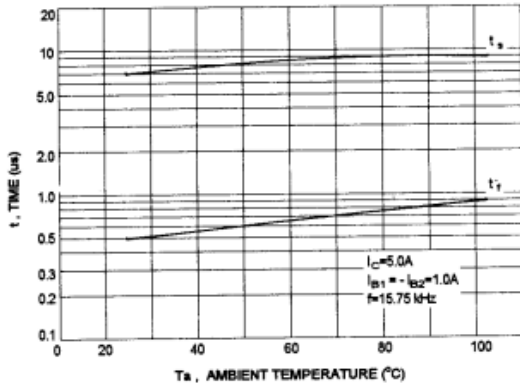
DC CURRENT GAIN



$I_C - V_{CE}$



SWITCHING TIME- AMBIENT TEMPERATURE



COLLECTOR SATURATION REGION

