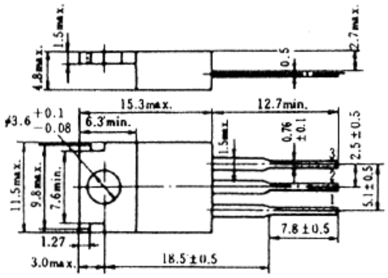
HITACHI

2SD1329Ⓚ

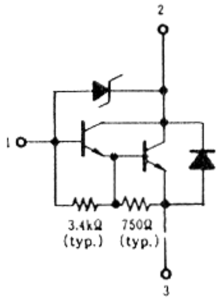
SILICON NPN TRIPLE DIFFUSED

LOW FREQUENCY POWER AMPLIFIER
POWER SWITCHING



1. Base
2. Collector (Flange)
3. Emitter

(Dimensions in mm)



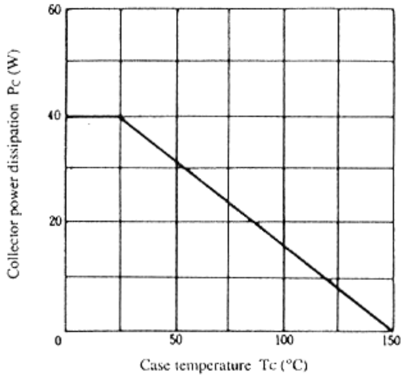
(JEDEC TO-220AB)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD1329Ⓚ	Unit
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	6	A
Collector peak current	$i_{C(peak)}$*	10	A
Base current	I_B	1.2	A
Collector power dissipation	P_C**	40	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

* PW < 100ms, Duty cycle < 50%.
** Value at Tc = 25°C.

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to base breakdown voltage (Zener breakdown voltage)	$V_{(BR)CBO}(V_Z)$	$I_C = 0.1mA$, $I_E = 0$	50	70	90	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	$I_E = 50mA$, $I_C = 0$	7	—	—	V
Collector to emitter sustain voltage	$V_{CEO(sus)}$	$I_C = 2A$, $R_{BE} = \infty$, $L = 10mH$*	50	—	—	V
Collector cutoff current	I_{CEO}	$V_{CE} = 50V$, $R_{BE} = \infty$	—	—	100	μA
DC current transfer ratio	h_{FE1}	$V_{CE} = 2V$, $I_C = 3A$*	2000	—	—	
	h_{FE2}	$V_{CE} = 3V$, $I_C = 6A$*	1000	—	—	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3A$, $I_B = 3mA$*	—	—	1.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 3A$, $I_B = 3mA$*	—	—	2.0	V
Diode forward voltage	V_{FD}	$I_D = 6A$*	—	—	2.5	V
Turn on time	t_{on}	$I_C = 3A$, $I_{B1} = -I_{B2} = 6mA$	—	0.4	—	μs
Turn off time	t_{off}		—	8.0	—	μs

* Pulse Test.

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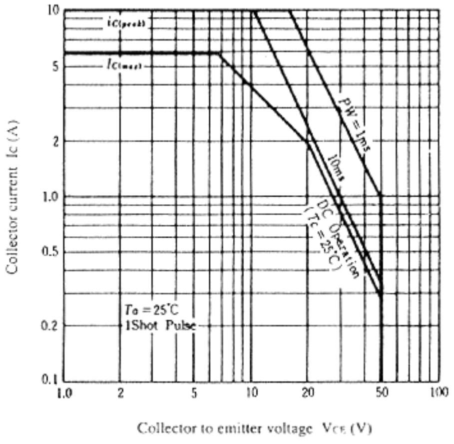
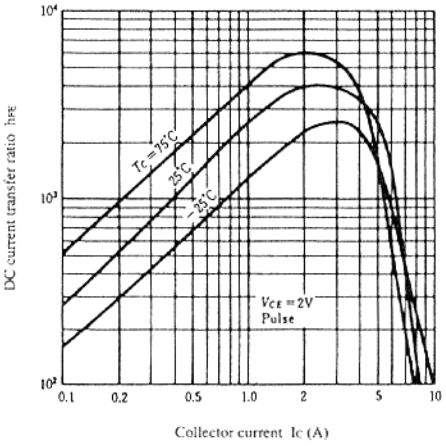
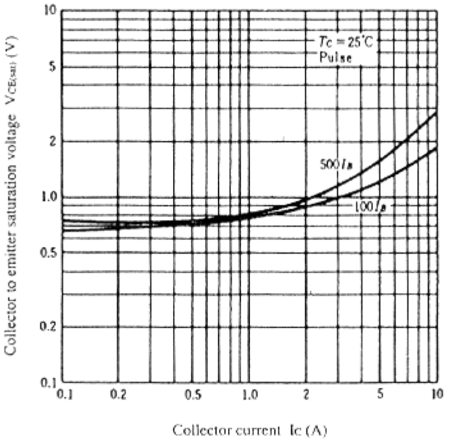
AREA SAFE OPERATION



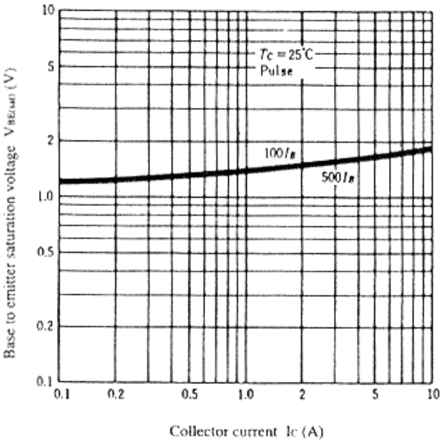
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



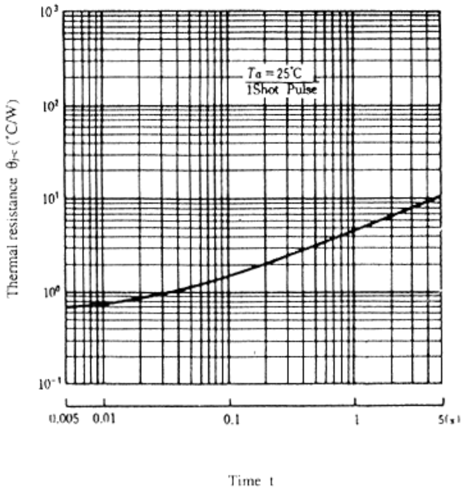
COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



BASE TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



TRANSIENT THERMAL RESISTANCE



ZENER VOLTAGE VS. AMBIENT TEMPERATURE