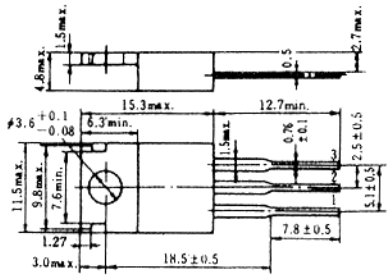
2SD1127Ⓚ

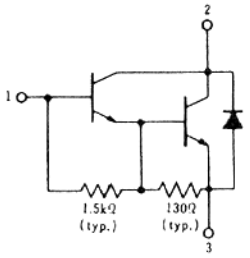
SILICON NPN TRIPLE DIFFUSED

POWER SWITCHING



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

(Dimensions in mm)



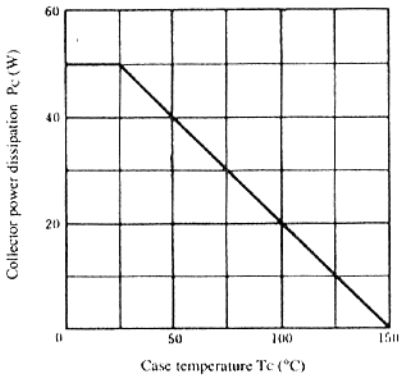
(JEDEC TO-220AB)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD1127Ⓚ	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	120	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	10	A
Collector peak current	$i_{C(peak)}$	15	A
Collector power dissipation	P_C*	50	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C
C to E diode forward current	I_D*	10	A

* Value at T_C = 25°C.

MAXIMUM CHANNEL DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to emitter sustain voltage	$V_{CEO(sus)}$	I_C = 200mA, R_{BE} = ∞	120	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	I_E = 200mA, I_C = 0	7	—	—	V
Collector cutoff current	I_{CBO}	V_{CB} = 120V, I_E = 0	—	—	100	μA
DC current transfer ratio	h_{FE}	V_{CE} = 2V, I_C = 10A*	1000	—	—	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 10A, I_B = 25mA*	—	—	1.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$		—	—	2.0	V
Turn on time	t_{on}	I_C = 5A, I_{B1} = −I_{B2} = 10mA	—	0.8	—	μs
Turn off time	t_{off}		—	8.0	—	μs

* Pulse Test.

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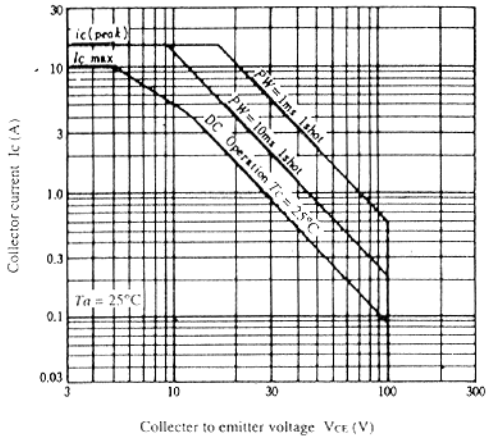
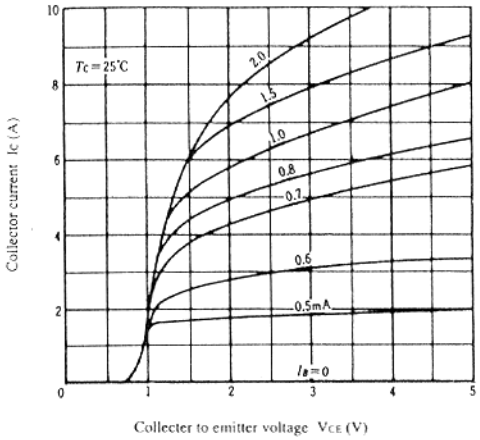
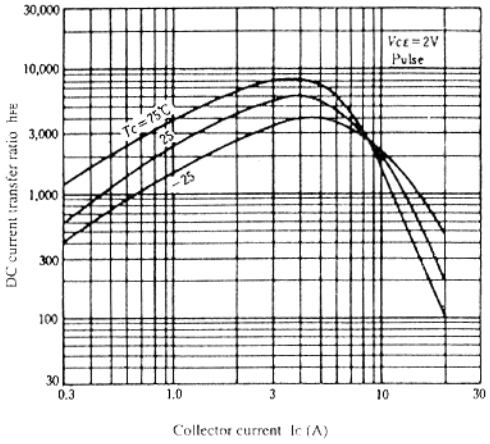
AREA OF SAFE OPERATION



TYPICAL OUTPUT CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT