

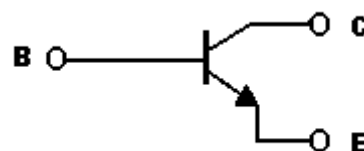
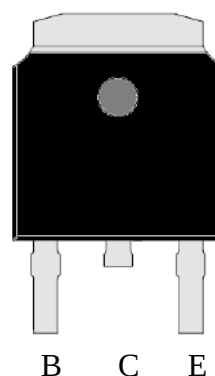
Silicon NPN Epitaxial Planar Transistor

Description:

- High BV_{CEO}
- High current capability
- Pb-free lead plating and halogen-free package

BV_{CEO}	160V
I_C	1.5A

TO-252(DPAK)



B : Base

C : Collector

E : Emitter

Ordering Information

Device	Package	Shipping
KJD1857A	TO-252 (Pb-free lead plating and halogen-free package)	2500 pcs / Tape & Reel

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CB0}	180	V
Collector-Emitter Voltage	V _{CEO}	160	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current (DC)	I _C	1.5	A
Collector Current (Pulse)	I _{CP}	3	A
Power Dissipation @T _A =25°C	P _D	1	W
Power Dissipation @T _C =25°C		10	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

Thermal Data

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-case, max	R _{th,j-c}	12.5	°C/W
Thermal Resistance, Junction-to-ambient, max	R _{th,j-a}	125	°C/W

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	180	-	-	V	I _C =50μA, I _E =0
BV _{CEO}	160	-	-	V	I _C =1mA, I _B =0
BV _{EBO}	5	-	-	V	I _E =50μA, I _C =0
I _{CB0}	-	-	1	μA	V _{CB} =160V, I _E =0
I _{EBO}	-	-	1	μA	V _{EB} =4V, I _C =0
*V _{CE(sat)}	-	-	0.6	V	I _C =1A, I _B =100mA
*V _{BE(on)}	-	-	1.5	V	V _{CE} =5V, I _C =150mA
h _{FE1}	180	-	390	-	V _{CE} =5V, I _C =150mA
h _{FE2}	30	-	-	-	V _{CE} =5V, I _C =500mA
f _T	-	140	-	MHz	V _{CE} =5V, I _C =150mA
Cob	-	27	-	pF	V _{CB} =10V, I _E =0, f=1MHz

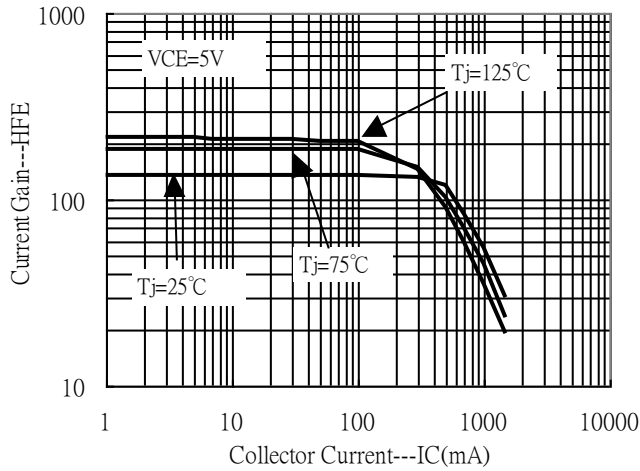
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of h_{FE} 1

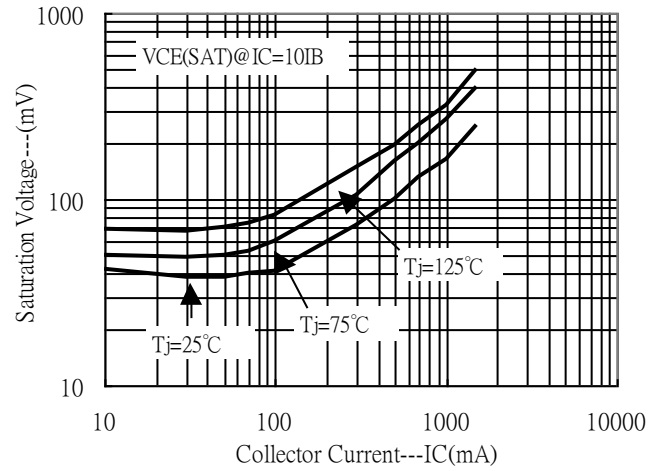
Rank	R
Range	180~390

Typical Characteristics

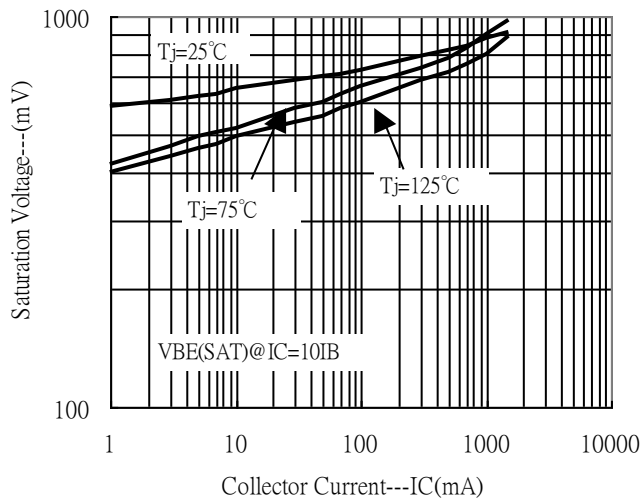
Current Gain vs Collector Current



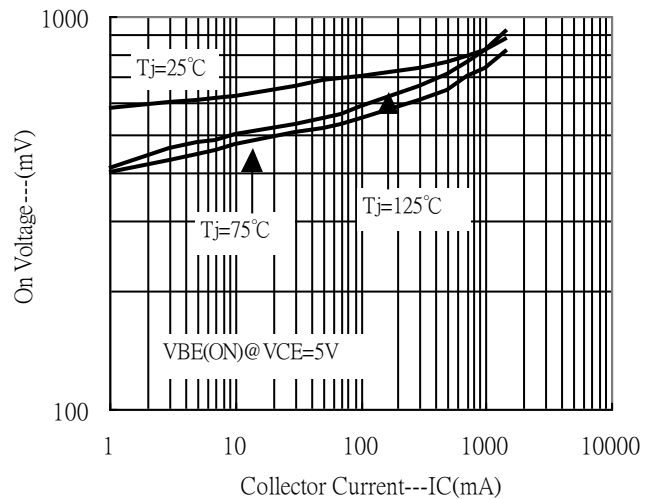
Saturation Voltage vs Collector Current



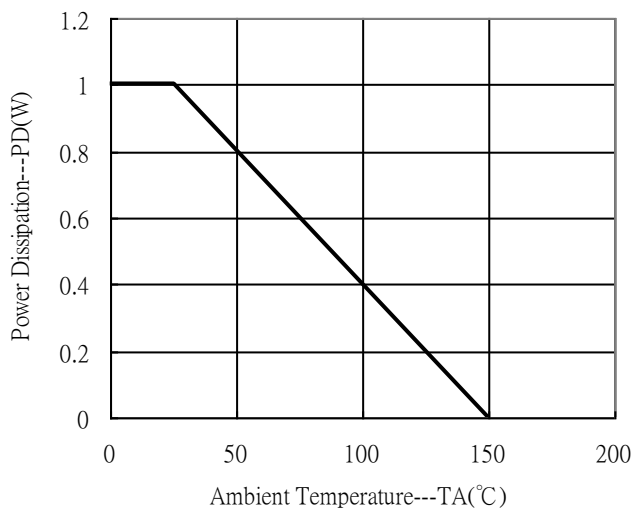
Saturation Voltage vs Collector Current



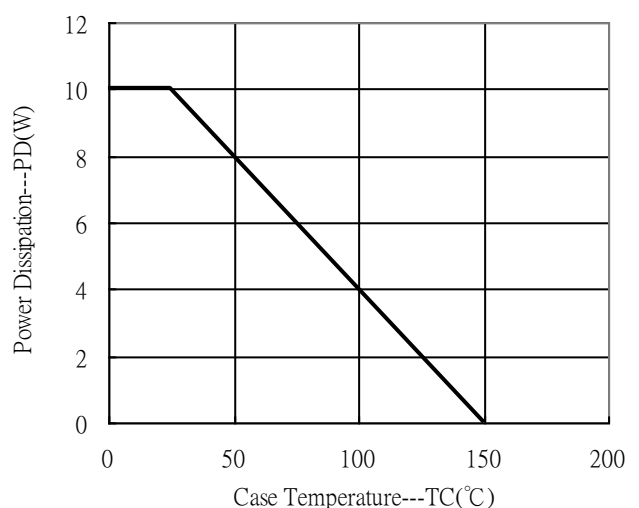
On Voltage vs Collector Current



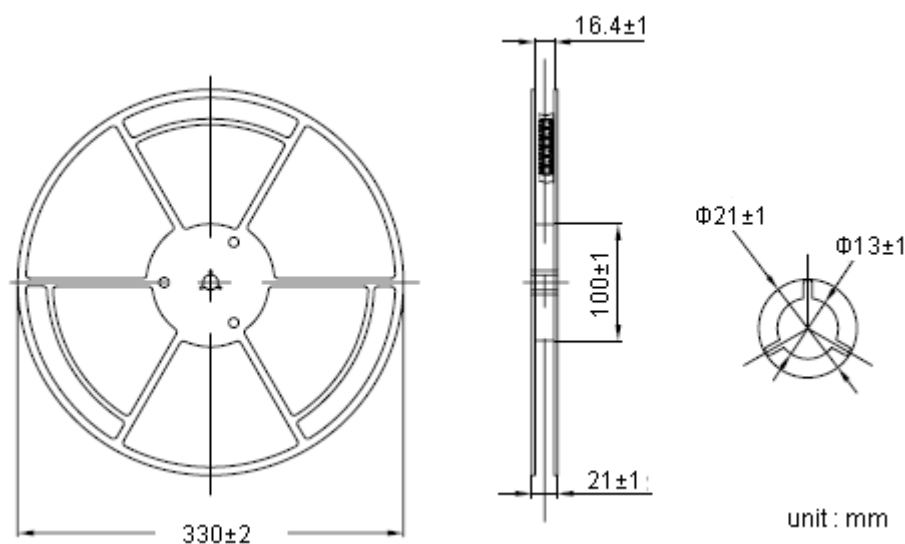
Power Derating Curve



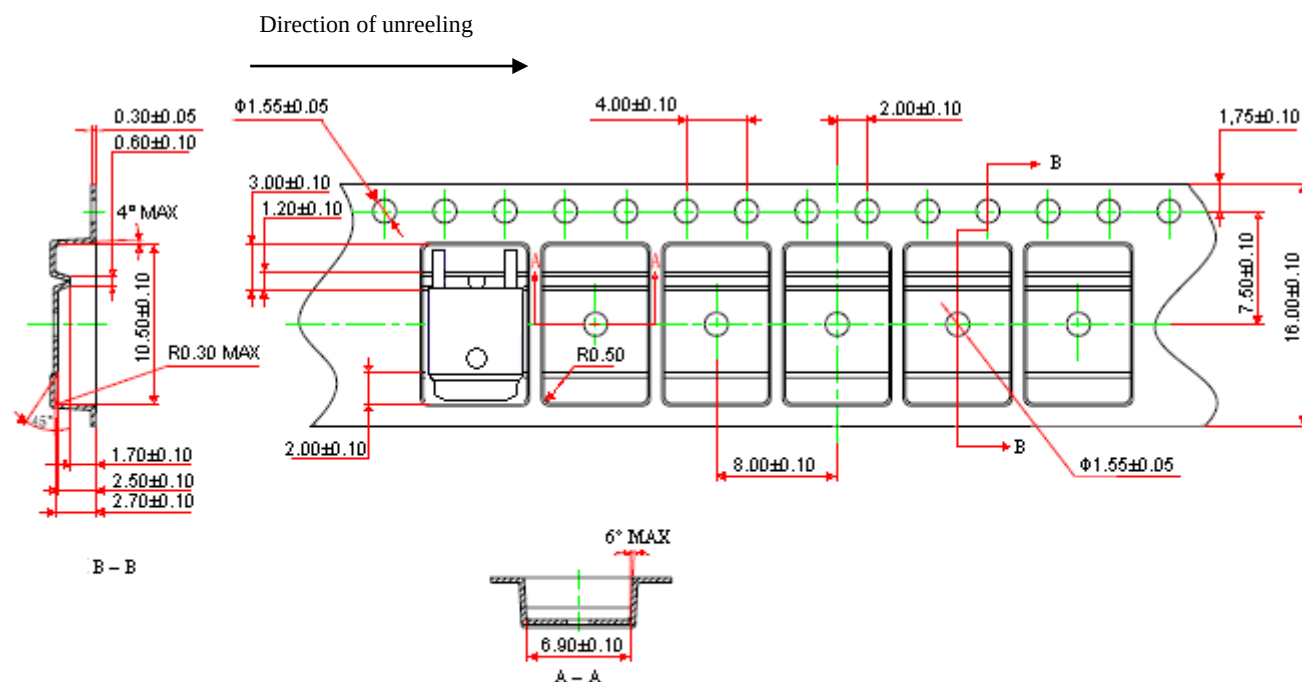
Power Derating Curve



Reel Dimension



Carrier Tape Dimension



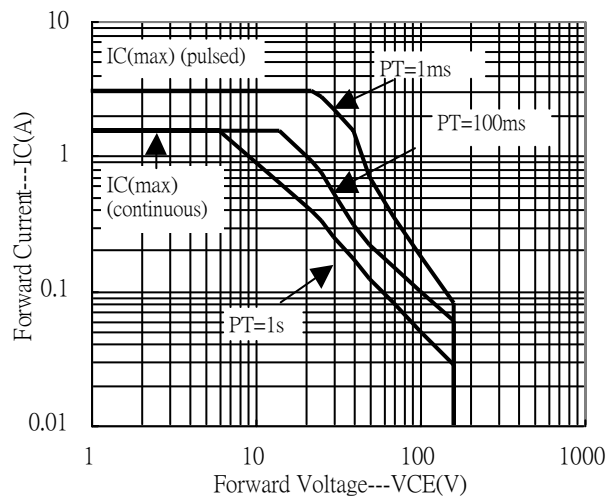
Notes:

1. 10 sprocket hole pitch cumulative tolerance ± 0.2 .
2. Camber not to exceed 1mm in 100mm.
3. Material: conductive black polystyrene, antistatic coated : $10^5 \Omega/\square \sim 10^{11} \Omega/\square$

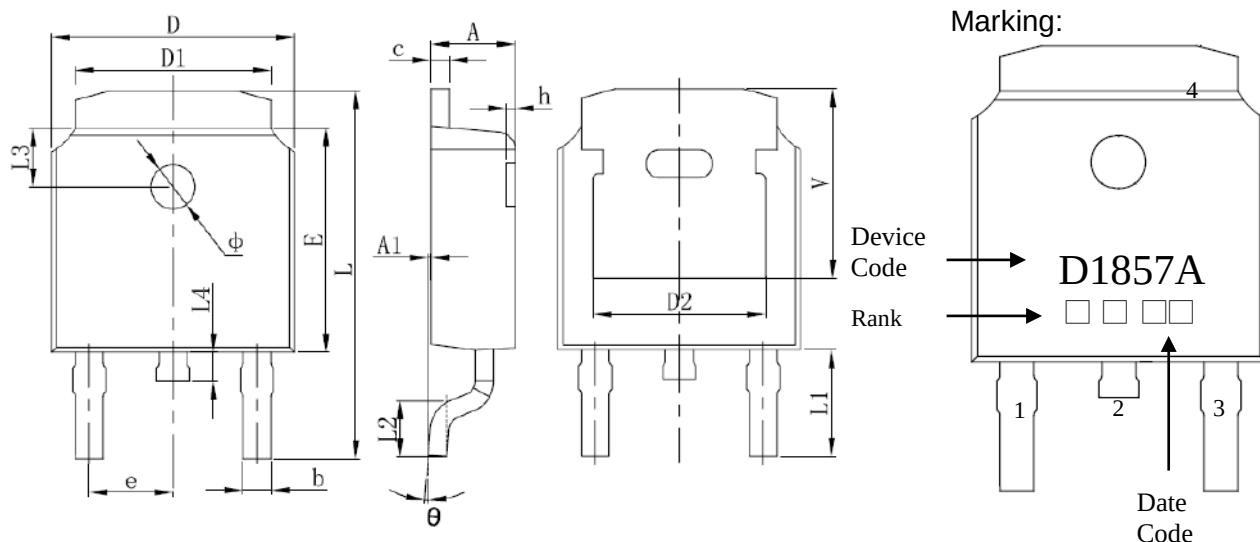
unit : mm

Typical Characteristics(Cont.)

Safe Operating Area



TO-252 Dimension



3-Lead TO-252 Plastic Surface Mount Package

Date Code :
 First code : Year code, Last digit of Christian Year
 Second Code : Month code, 1~9, A, B, C

Style: Pin 1.Base 2.Collector 3.Emitter
 4.Collector

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.087	0.094	2.200	2.400	L	0.382	0.406	9.712	10.312
A1	0.000	0.005	0.000	0.127	L1	0.114	REF	2.900	REF
b	0.025	0.030	0.635	0.770	L2	0.055	0.067	1.400	1.700
c	0.018	0.023	0.460	0.580	L3	0.063	REF	1.600	REF
D	0.256	0.264	6.500	6.700	L4	0.024	0.039	0.600	1.000
D1	0.201	0.215	5.100	5.460	Φ	0.043	0.051	1.100	1.300
D2	0.190	REF	4.830	REF	θ	0°	8°	0°	8°
E	0.236	0.244	6.000	6.200	h	0.000	0.012	0.000	0.300
e	0.086	0.094	2.186	2.386	v	0.207	REF	5.250	REF