2SD1643, 2SD1643A

Silicon PNP Triple-Diffused Planar Type

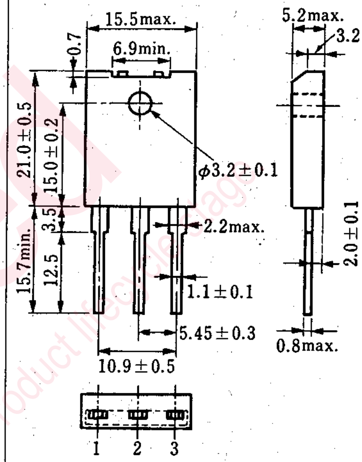
High DC Current Gain (h_{FE}), AF Power Amplifier

■ Features

- High DC current gain (h_{FE})
- Good linearity of DC current gain (h_{FE})
- "Full Pack" package for simplified mounting on a heat sink with one screw

■ Package Dimensions

Unit : mm



1 : Base
2 : Collector
3 : Emitter
TOP-3 Full Pack Package(a)

■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage	2SD1643	V_{CBO}	80	V
	2SD1643A		100	
Collector-emitter voltage	2SD1643	V_{CEO}	60	V
	2SD1643A		80	
Emitter-base voltage		V_{EBO}	6	V
Peak collector current		I_{CP}	6	A
Collector current		I_C	3	A
Base current		I_B	1	A
Collector power dissipation	Tc=25 ℃	P_C	50	W
	Ta=25 ℃		3	
Junction temperature		T_j	150	℃
Storage temperature		T_{stg}	−55～+150	℃

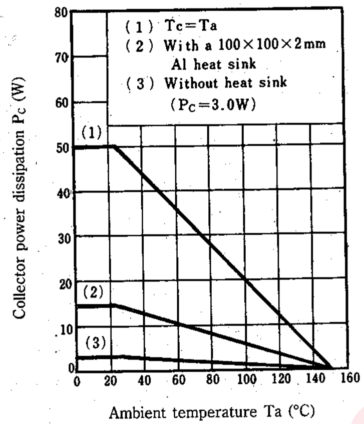
■ Electrical Characteristics (Tc=25°C)

Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SD1643	I_{CBO}	V_{CB}=80 V, I_E=0			100	μA
	2SD1643A		V_{CB}=100 V, I_E=0			100	
Collector cutoff current		I_{CEO}	V_{CE}=40 V, I_B=0			100	μA
Emitter cutoff current		I_{EBO}	V_{EB}=6 V, I_C=0			100	μA
Collector-emitter voltage	2SD1643	V_{CEO}	I_C=25 mA, I_B=0	60			V
	2SD1643A			80			
DC current gain		h_{FE}*	V_{CE}=4 V, I_C=0.5 A	500		2500	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=2 A, I_B=0.05 A			1	V
Transition frequency		f_T	V_{CE}=12V, I_C=0.2A, f=10MHz		50		MHz

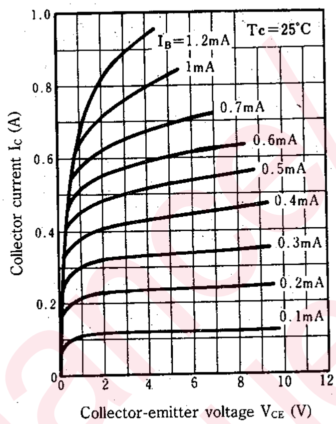
*h_{FE} Classifications

Class	Q	P	O
h_{FE}	500～1000	800～1500	1200～2500

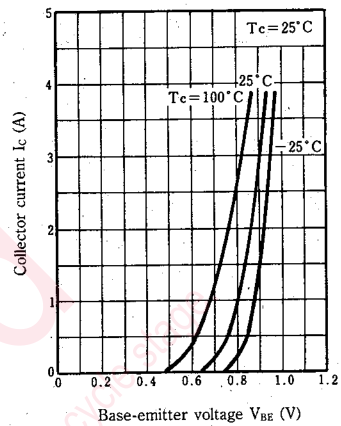
P_C — Ta



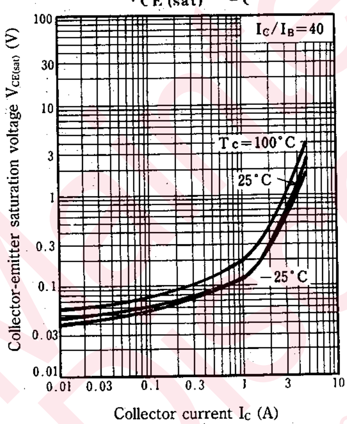
I_C — V_{CE}



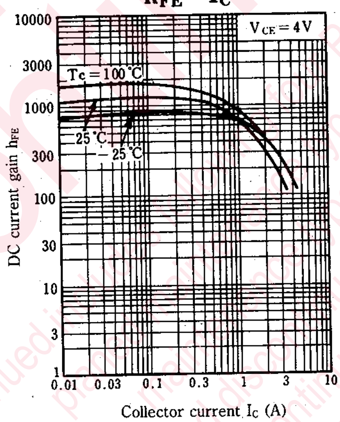
I_C — V_{BE}



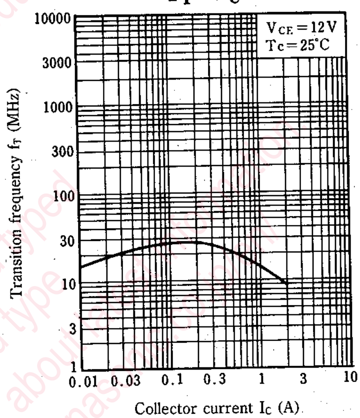
$V_{CE(sat)}$ — I_C



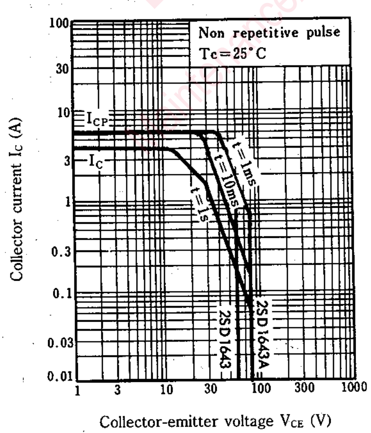
h_{FE} — I_C



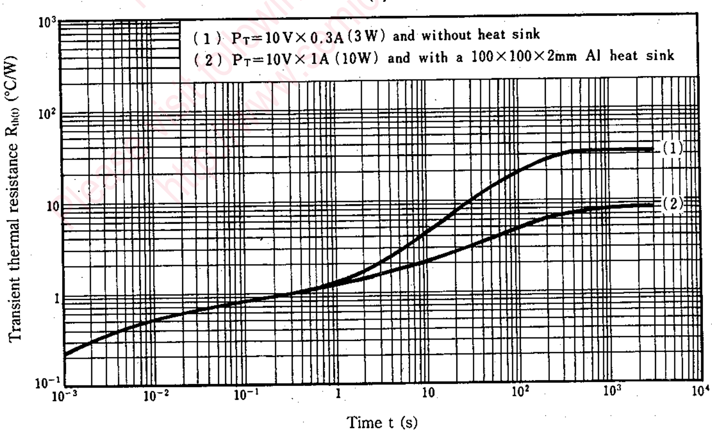
f_T — I_C



Area of safe operation (ASO)



$R_{th(t)}$ — t



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