2SD860, 2SD860A

Silicon NPN Triple-Diffused Planar Type

Power Amplifier

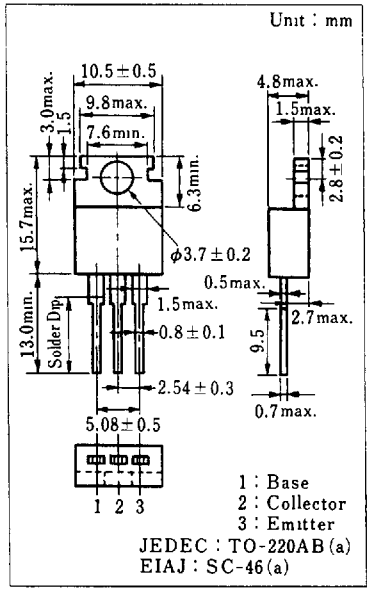
■ Feature

- High collector-base voltage (V_{CBO})

■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage	2SD860	V_{CBO}	350	V
	2SD860A		400	
Collector-emitter voltage	2SD860	V_{CEO}	250	V
	2SD860A		300	
Emitter-base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	2	A
Collector current		I_C	1	A
Collector power dissipation	Tc=25°C	P_C	40	W
	Ta=25°C		1.4	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55~+150	°C

■ Package Dimensions



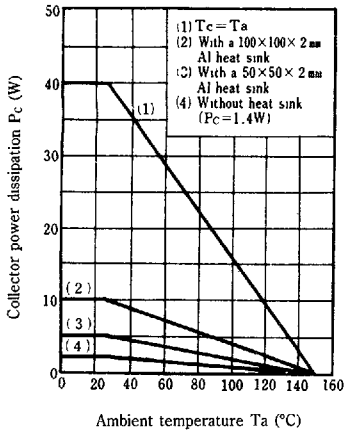
■ Electrical Characteristics (Tc=25°C)

Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SD860	I_{CEO}	V_{CE}=150 V, I_B=0			1	mA
	2SD860A		V_{CE}=200 V, I_B=0			1	
Collector cutoff current	2SD860	I_{CES}	V_{CE}=350 V, V_{BE}=0			1	mA
	2SD860A		V_{CE}=400 V, V_{BE}=0			1	
Emitter cutoff current		I_{EBO}	V_{EB}=5 V, I_C=0			1	mA
Collector-emitter voltage	2SD860	V_{CEO}	I_C=30 mA, I_B=0	250			V
	2SD860A			300			
DC current gain		h_{FE1} *	V_{CE}=10 V, I_C=0.3 A	40		250	
		h_{FE2}	V_{CE}=10 V, I_C=2 A	10			
Base-emitter voltage		V_{BE}	V_{CE}=10 V, I_C=2 A			1.5	V
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=2 A, I_B=0.4 A			1	V
Transition frequency		f_T	V_{CE}=5V, I_C=0.2A, f=1MHz		20		MHz
Turn-on time		t_{on}	V_{CC}=50V,		0.2		μs
Turn-off time		t_{off}	I_C=2A, I_{B1}=0.2A, I_{B2}=−0.2A		2		μs

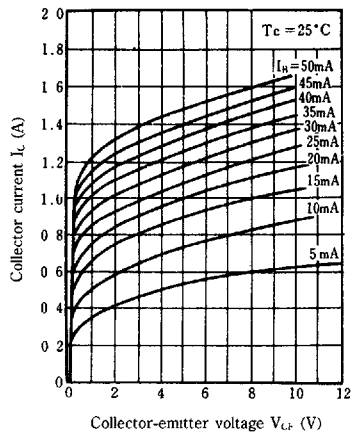
*h_{FE1} Classifications

Class	R	Q	P
h_{FE1}	40~90	70~150	120~250

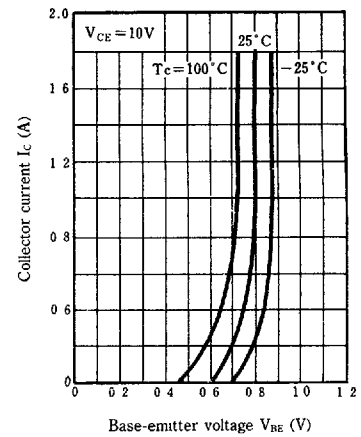
$P_C - Ta$



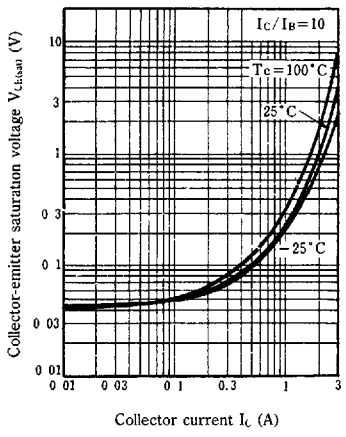
$I_C - V_{CE}$



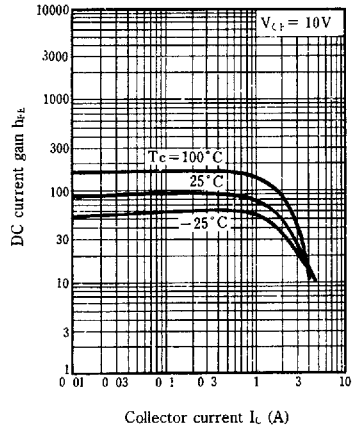
$I_C - V_{BE}$



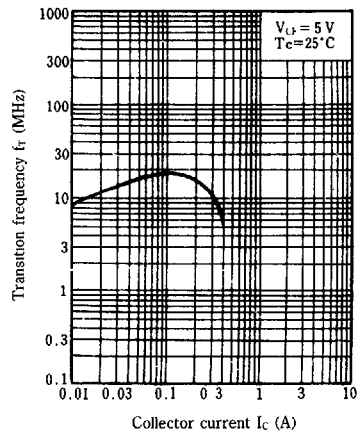
$V_{CE(sat)} - I_C$



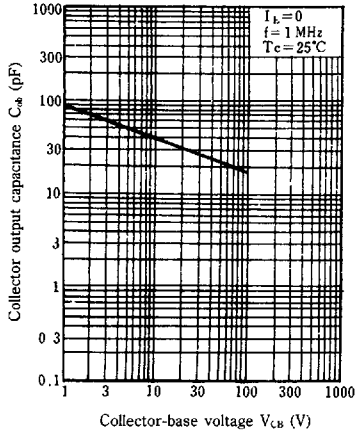
$h_{FE} - I_C$



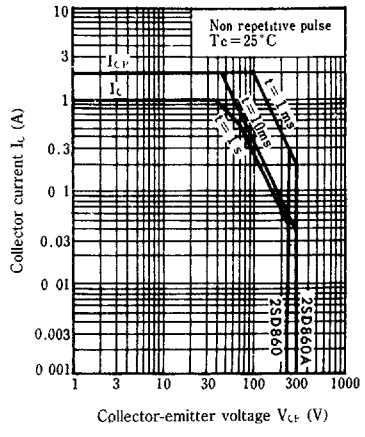
$f_T - I_C$



$C_{ob} - V_{CB}$



Area of safe operation (ASO)



Note) Refer to P.620 (on 2SD812/A) for $R_{th(t)} - t$ characteristics.