2SD2242, 2SD2242A

Silicon NPN triple diffusion planar type Darlington

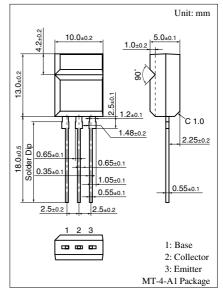
For power amplification

Features

- \bullet High forward current transfer ratio h_{FE}
- High-speed switching
- Allowing supply with the radial taping

Absolute Maximum Ratings $T_C = 25^{\circ}C$

Paramet	er	Symbol	Rating	Unit
Collector to base	2SD2242	V _{CBO}	60	V
voltage	2SD2242A		80	
Collector to	2SD2242	V _{CEO}	60	V
emitter voltage	2SD2242A		80	
Emitter to base vol	ltage	V _{EBO}	5	V
Peak collector curr	ent	I _{CP}	8	А
Collector current		I _C	4	А
Collector power	$T_C = 25^{\circ}C$	P _C	15	W
dissipation	$T_a = 25^{\circ}C$		2	
Junction temperatu	ıre	Tj	150	°C
Storage temperatur	re	T _{stg}	-55 to +150	°C



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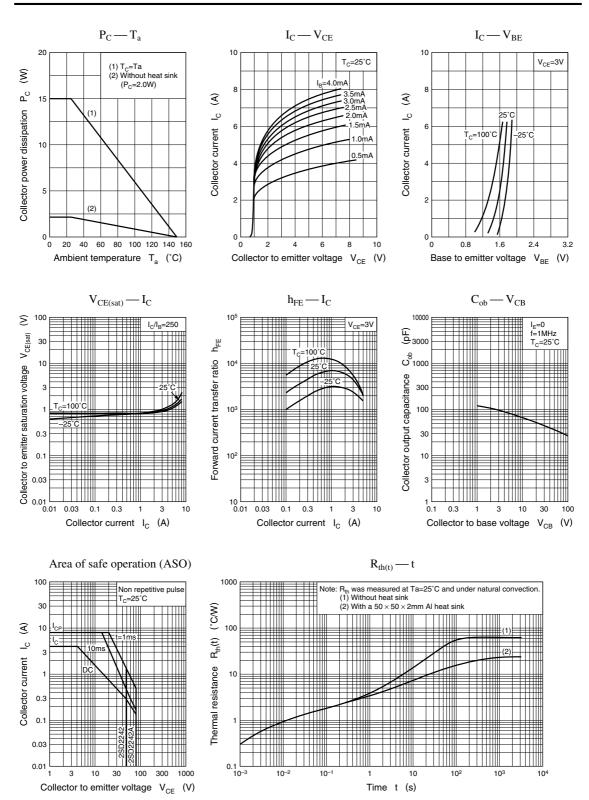
Internal Connection

R o

Junction temperature		Ij	150	<u>ئ</u>		BO-	ha, .		
Storage temperature		T _{stg}	-55 to +150	+150 °C			t t		
Electrical Chara	acteristi	ics $T_C =$	25°C					E	
Parameter	r	Sym	lool	Conditions		Min	Тур	Max	Unit
Collector cutoff	2SD2242	2 I _{CB}	V _{CB} =	$V_{CB} = 60 \text{ V}, I_E = 0$				200	μΑ
current	2SD2242	2A	V _{CB} =	80 V, $I_E = 0$				200	
Collector cutoff	2SD2242	2 I _{CEO}	$V_{CE} =$	30 V, $I_B = 0$				500	μΑ
current	2SD2242	2A	V _{CE} =	40 V, $I_B = 0$				500	
Emitter cutoff current		I _{EBO}	$V_{EB} =$	5 V, $I_C = 0$				2	μΑ
Collector to emitter	2SD2242	2 V _{CE}	$I_{\rm C} = 30$	M = 0 mA, I _B = 0		60			V
voltage	2SD2242	2A				80			
Forward current transfer ratio		h _{FE}	$V_{CE} =$	3 V, $I_C = 0.5 A$		1 000			
		h _{FE2}	* V _{CE} =	3 V, $I_C = 3 A$		2 000		10 000	
Base to emitter voltage		V _{BI}	$V_{CE} =$	$3 \text{ V}, \text{ I}_{\text{C}} = 3 \text{ A}$				2.5	V
Collector to emitter saturation voltage		age V _{CE(s}	$I_{\rm C} = 3$	A, $I_{B} = 12 \text{ mA}$				2	V
			I _C = 5	A, $I_{B} = 20 \text{ mA}$				4	
Transition frequency		f _T	$V_{CE} =$	$10 \text{ V}, \text{I}_{\text{C}} = 0.5 \text{ A}, \text{ f}$	= 1 MHz		20		MHz
Turn-on time		t _{on}	I _C = 3	A, $I_{B1} = 12 \text{ mA}$, I_B	$_2 = -12 \text{ mA},$		0.5		μs
Storage time		t _{stg}	V _{CC} =	50 V			4		μs
Fall time		t _f					1		μs

Note) *: Rank classification

Rank	Q	R
h _{FE2}	2 000 to 5 000	4 000 to 10 000



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