2SD1276AP Datasheet

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DiGi Electronics Part Number	2SD1276AP-DG
Manufacturer	Panasonic Electronic Components
Manufacturer Product Number	2SD1276AP
Description	TRANS NPN DARL 80V 4A TO220F-A1
Detailed Description	Bipolar (BJT) Transistor NPN - Darlington 80 V 4 A 2 0MHz 2 W Through Hole TO-220F-A1

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RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
2SD1276AP	Panasonic Electronic Components
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN - Darlington	4 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
80 V	4V @ 20mA, 5A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
500µA	4000 @ 3A, 3V
Power - Max:	Frequency - Transition:
2 W	20MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-220-3 Full Pack	TO-220F-A1
Base Product Number:	
2SD127	

Environmental & Export classification

Moisture Sensitivity Level (MSL):	ECCN:
1 (Unlimited)	EAR99
HTSUS:	
8541.29.0095	

2SD1276, 2SD1276A

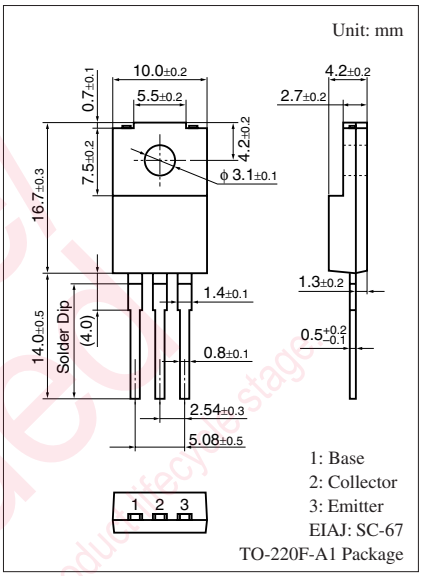
Silicon NPN triple diffusion planar type darlington

For power amplification

Complementary to 2SB0950 and 2SB0950A

■ Features

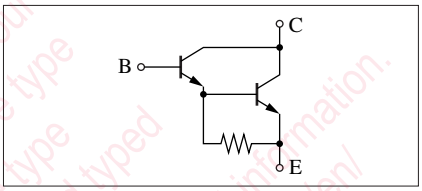
- High forward current transfer ratio h_{FE}
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw



■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SD1276	V_{CBO}	60	V
	2SD1276A		80	
Collector-emitter voltage (Base open)	2SD1276	V_{CEO}	60	V
	2SD1276A		80	
Emitter-base voltage (Collector open)		V_{EBO}	5	V
Collector current		I_C	4	A
Peak collector current		I_{CP}	8	A
Collector power dissipation	$T_C = 25°C$	P_C	40	W
			2.0	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

Internal Connection



■ Electrical Characteristics $T_a = 25°C \pm 3°C$

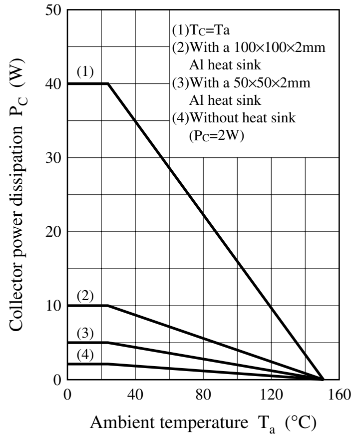
Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SD1276	V_{CEO}	$I_C = 30$ mA, $I_B = 0$	60			V
	2SD1276A			80			
Base-emitter voltage		V_{BE}	$V_{CE} = 3$ V, $I_C = 3$ A			2.5	V
Collector-base cutoff current (Emitter open)	2SD1276	I_{CBO}	$V_{CB} = 60$ V, $I_E = 0$			200	μA
	2SD1276A		$V_{CB} = 80$ V, $I_E = 0$			200	
Collector-emitter cutoff current (Base open)	2SD1276	I_{CEO}	$V_{CE} = 30$ V, $I_B = 0$			500	μA
	2SD1276A		$V_{CE} = 40$ V, $I_B = 0$			500	
Emitter-base cutoff current (Collector open)		I_{EBO}	$V_{EB} = 5$ V, $I_C = 0$			2	mA
Forward current transfer ratio		h_{FE1}	$V_{CE} = 3$ V, $I_C = 0.5$ A	1000			—
		h_{FE2} *	$V_{CE} = 3$ V, $I_C = 3$ A	1000		10000	
Collector-emitter saturation voltage		$V_{CE(sat)1}$	$I_C = 3$ A, $I_B = 12$ mA			2.0	V
		$V_{CE(sat)2}$	$I_C = 5$ A, $I_B = 20$ mA			4.0	
Transition frequency		f_T	$V_{CE} = 10$ V, $I_C = 0.5$ A, f = 1 MHz		20		MHz
Turn-on time		t_{on}	$I_C = 3$ A, $I_{B1} = 12$ mA, $I_{B2} = -12$ mA, $V_{CC} = 50$ V		0.5		μs
Storage time		t_{stg}			4.0		μs
Fall time		t_f			1.0		μs

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

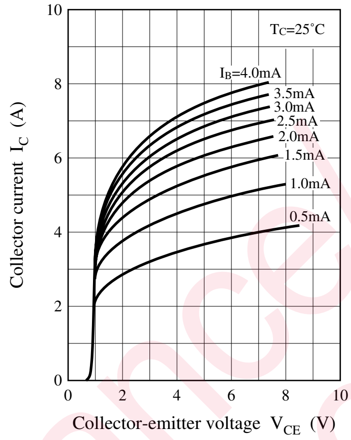
2. *: Rank classification

Rank	R	Q	P
h_{FE2}	1000 to 2500	2000 to 5000	4000 to 10000

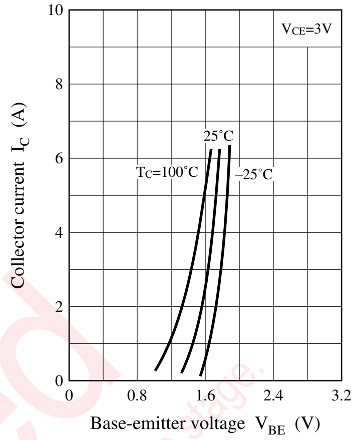
P_C — T_a



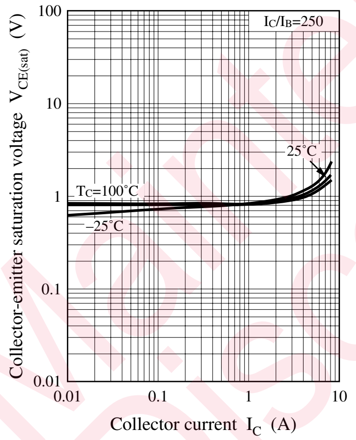
I_C — V_{CE}



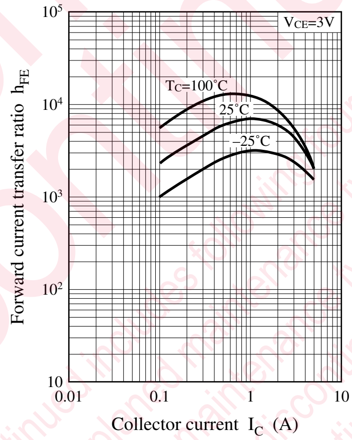
I_C — V_{BE}



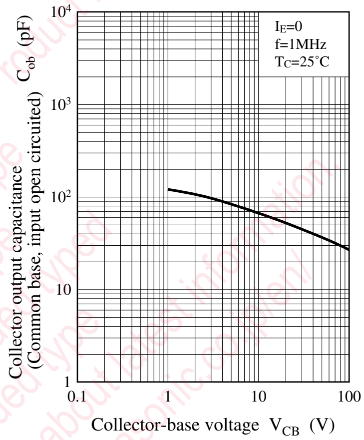
$V_{CE(sat)}$ — I_C



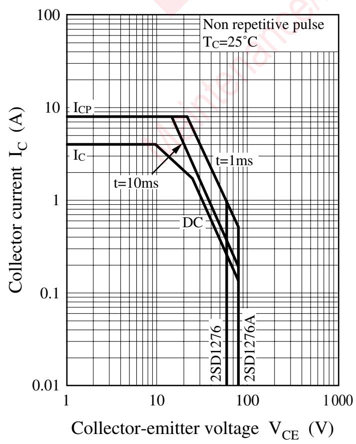
h_{FE} — I_C



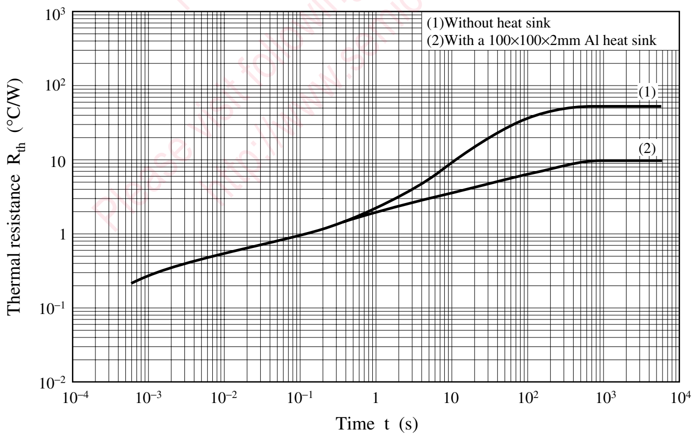
C_{ob} — V_{CB}



Safe operation area



R_{th} — t



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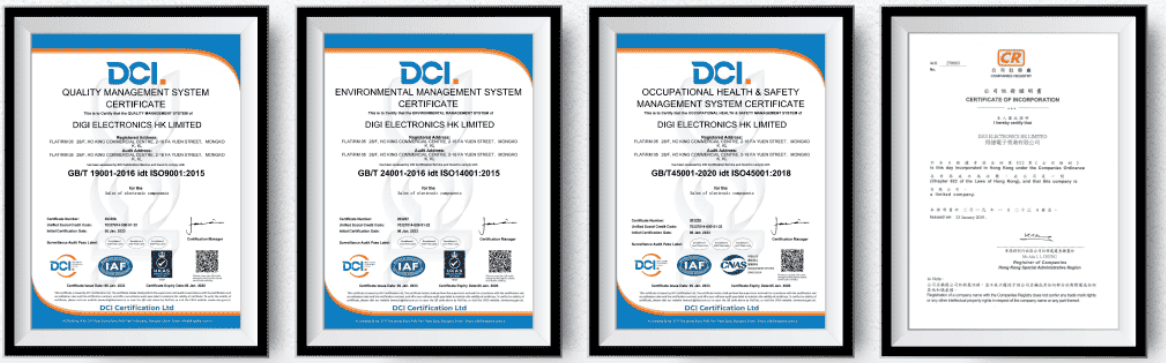

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