2SC57390P Datasheet

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DiGi Electronics Part Number	2SC57390P-DG
Manufacturer	Panasonic Electronic Components
Manufacturer Product Number	2SC57390P
Description	TRANS NPN 60V 3A TO220D-A1
Detailed Description	Bipolar (BJT) Transistor NPN 60 V 3 A 180MHz 2 W T hrough Hole TO-220D-A1

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
2SC57390P	Panasonic Electronic Components
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN	3 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
60 V	500mV @ 375mA, 3A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100µA	160 @ 1A, 4V
Power - Max:	Frequency - Transition:
2 W	180MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-220-3 Full Pack	TO-220D-A1
Base Product Number:	
2SC573	

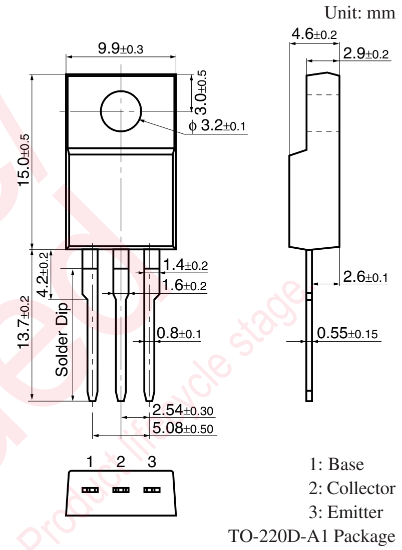
Environmental & Export classification

Moisture Sensitivity Level (MSL):	ECCN:
1 (Unlimited)	EAR99
HTSUS:	
8541.29.0075	

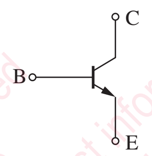
2SC5739

Silicon NPN epitaxial planar type

Power supply for Audio & Visual equipments
such as TVs and VCRs
Industrial equipments such as DC-DC converters



Internal Connection



■ Features

- High-speed switching (t_{stg}: storage time/t_f: fall time is short)
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Superior forward current transfer ratio h_{FE} linearity
- TO-220D built-in: Excellent package with withstand voltage 5 kV guaranteed

■ Absolute Maximum Ratings $T_C = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	60	V
Collector-emitter voltage (Base open)	V_{CEO}	60	V
Emitter-base voltage (Collector open)	V_{EBO}	6	V
Collector current	I_C	3	A
Peak collector current *	I_{CP}	6	A
Collector power dissipation	P_C	20	W
$T_a = 25°C$		2.0	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

Note) *: Non-repetitive peak collector current

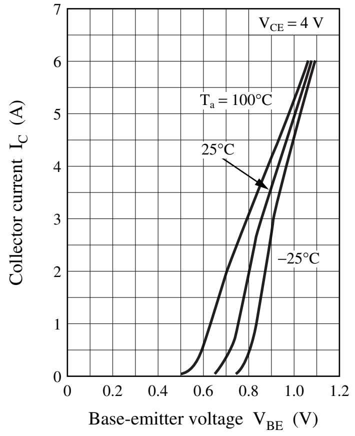
■ Electrical Characteristics $T_C = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 10$ mA, $I_B = 0$	60			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 60$ V, $I_E = 0$			100	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 60$ V, $I_B = 0$			100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 6$ V, $I_C = 0$			1	mA
Forward current transfer ratio	h_{FE1} *	$V_{CE} = 4$ V, $I_C = 1$ A	120		320	—
	h_{FE2}	$V_{CE} = 4$ V, $I_C = 3$ A	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3$ A, $I_B = 0.375$ A			0.5	V
Transition frequency	f_T	$V_{CE} = 10$ V, $I_C = 0.1$ A, f = 10 MHz		180		MHz
Turn-on time	t_{on}	$I_C = 1$ A, Resistance loaded		0.2	0.3	μs
Storage time	t_{stg}	$I_{B1} = 0.1$ A, $I_{B2} = -0.1$ A		0.55	0.70	μs
Fall time	t_f	$V_{CC} = 50$ V		0.10	0.15	μs

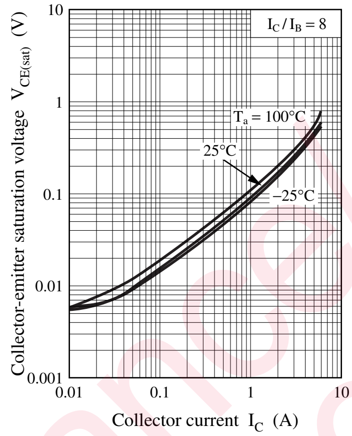
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

Rank	Q	P
h_{FE1}	120 to 250	160 to 320

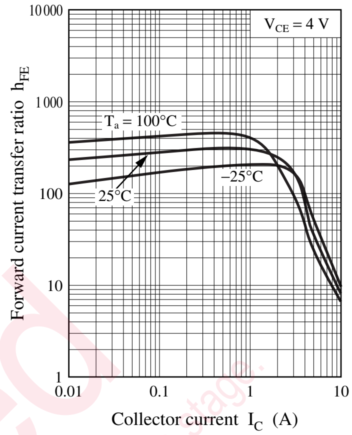
I_C — V_{BE}



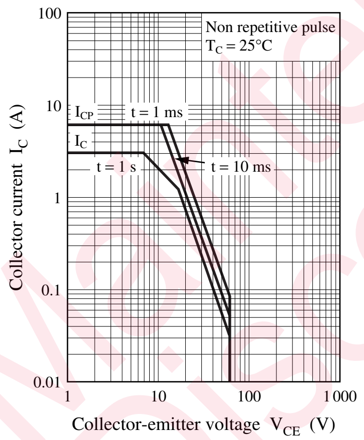
$V_{CE(sat)}$ — I_C



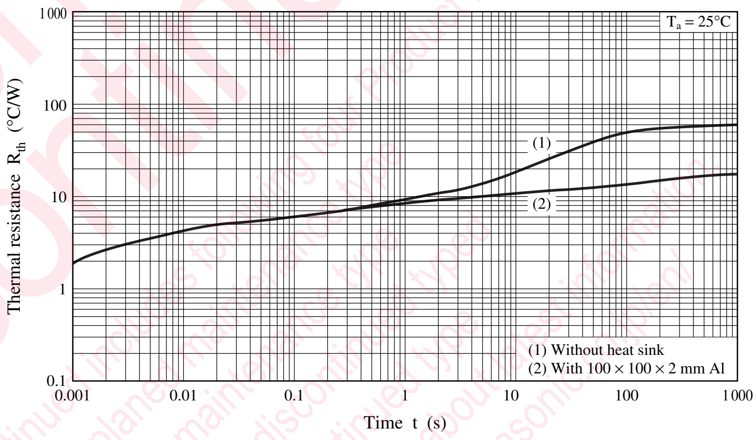
h_{FE} — I_C



Area of safe operation



R_{th} — t



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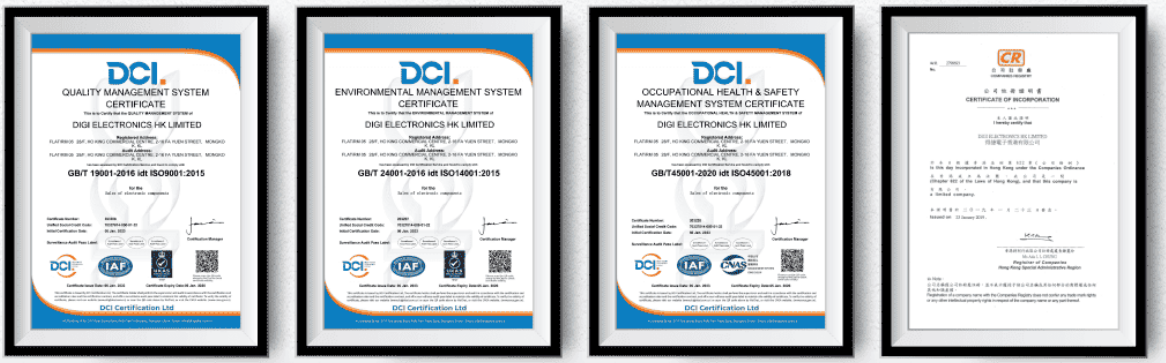

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