

Panasonic

60V · 3A NPN /PNP

High-speed Switching Power Transistor

Overview

Switching speed of new type power transistor (2SA2057, 2SC5739) is improved compared to current ones by more than 50 %. Collector to Emitter Saturation Voltage ; $V_{CE(sat)}$ is also 40 % improved. These improved features can make power consumption lower and contribute to minimization of insertion space.

Features

- High speed switching (t_s : time saving / t_f : fall time)
- Low $V_{CE(sat)}$
- Constant Forward Current Transfer Ratio
- Installed evolved package TO-220D having enough insulated voltage (= 5 kV)

Applications

- Power of Audio-Video electrical applications
- DC-DC converter

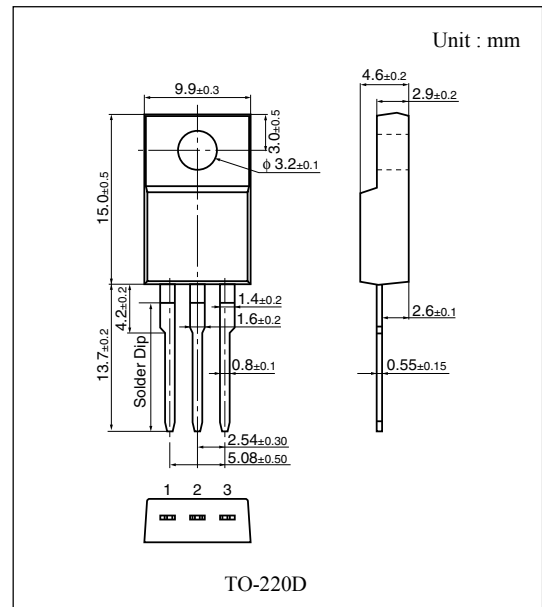
Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$)

Part Number	2SA2057 (PNP)	2SC5739 (NPN)
V_{CBO} (V)	- 60	60
V_{CEO} (V)	- 60	60
V_{EBO} (V)	- 6	6
I_C (A)	- 3	3
P_C (W) *1	20	20
P_C (W) *2	2.0	2.0
T_J ($^\circ\text{C}$)	150	150
T_{stg} ($^\circ\text{C}$)	- 55 ~ 150	- 55 ~ 150

*1 : $T_C = 25^\circ\text{C}$ (TO-220D)

*2 : $T_a = 25^\circ\text{C}$ (without heat sink)

Part Number	2SA2057 (PNP)	2SC5739 (NPN)	Conditions
I_{CBO} (max)	100 μA	100 μA	$V_{CE} = 60\text{ V}$
h_{FE}	120 ~ 320	120 ~ 320	$V_{CE} = 4\text{ V}$, $I_C = 1\text{ A}$
$V_{CE(sat)}$ (max)	0.5 V	0.5 V	$I_C = 3\text{ A}$, $I_B = 0.375\text{ A}$
t_{on} (typ)	0.15 μs	0.2 μs	$I_C = 1\text{ A}$ $I_{B1} = 0.1\text{ A}$ $I_{B2} = 0.1\text{ A}$ $V_{CC} = 50\text{ V}$
t_s (typ)	0.4 μs	0.65 μs	
t_f (typ)	0.1 μs	0.1 μs	

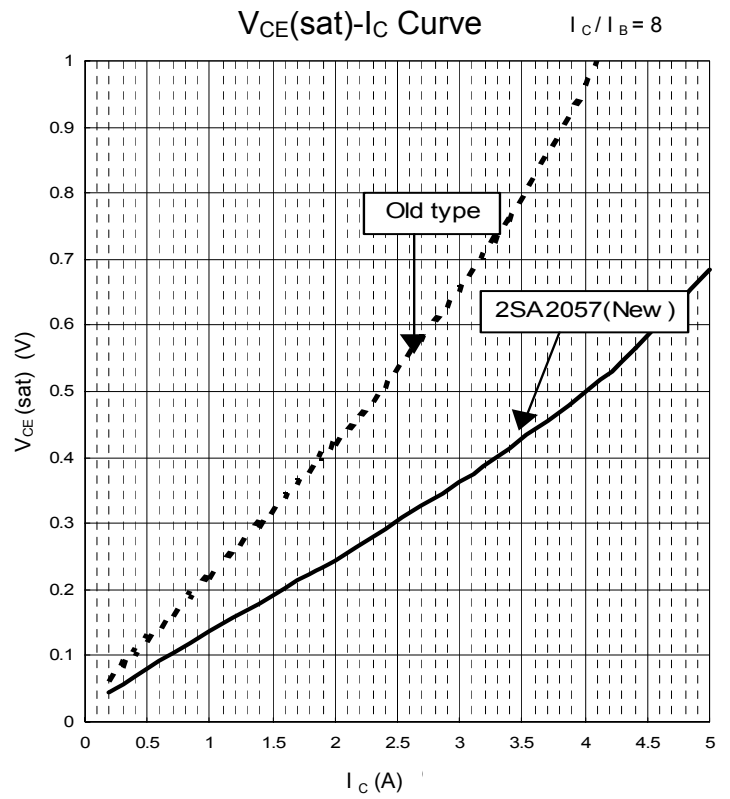
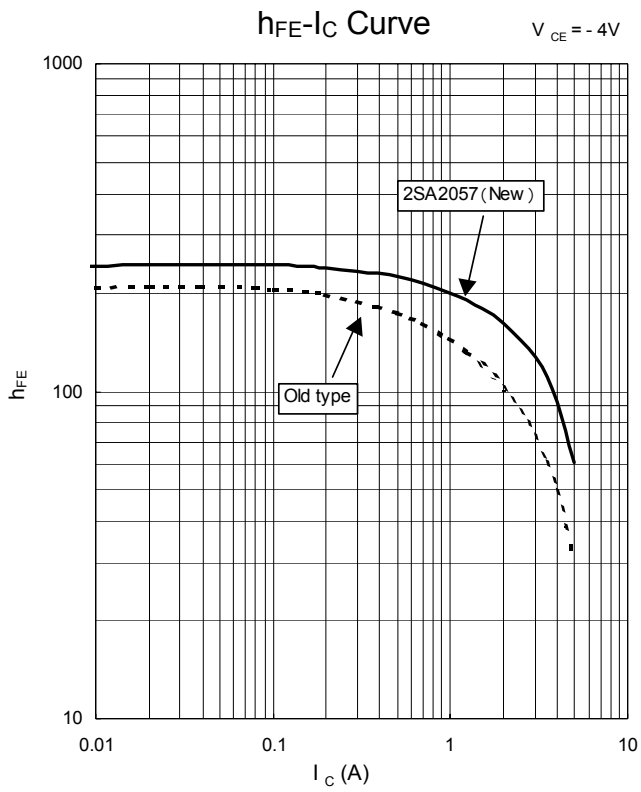


■ Package can be changed to others such as MT-4

The products and specification are subject to change without any notice. Please ask for the latest Product Standards to guarantee the satisfaction of your product requirements.

Semiconductor Company, Matsushita Electronics Corporation

2SA2057(PNP)



2SC5739(NPN)

