

**2SD1628****High-Current Switching Applications**

An ON Semiconductor Company

Applications

- Strobe DC-DC converters, relay drivers, hammer drivers, lamp drivers, motor drovers.

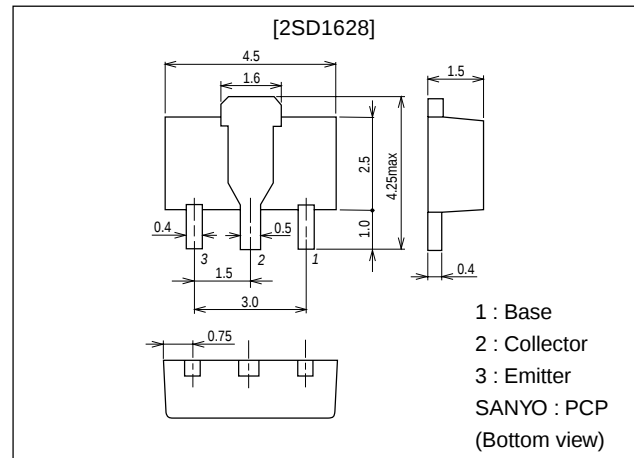
Features

- Low saturation voltage.
- High h_{FE} .
- Large current capacity.
- Very small size making it easy to provide high-density, small-sized hybrid IC's.

Package Dimensions

unit:mm

2038A

**Specifications****Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		60	V
Collector-to-Emitter Voltage	V_{CEO}		20	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		5	A
Collector Current (Pulse)	I_{CP}		8	A
Collector Dissipation	P_C		500	mW
		Mounted on ceramic board (250mm ² ×0.8mm)	1.5	W
Junction Temperature	T_J		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	nA
DC Current Gain	h_{FE1}	$V_{CE}=2\text{V}, I_C=0.5\text{A}$	120*		560*	
	h_{FE2}	$V_{CE}=2\text{V}, I_C=3\text{A}$	95			
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}$		120		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		45		pF

* The 2SD1628 is classified by 0.5A h_{FE} as follows :
 Marking : DK

120	E	200	160	F	320	280	G	560
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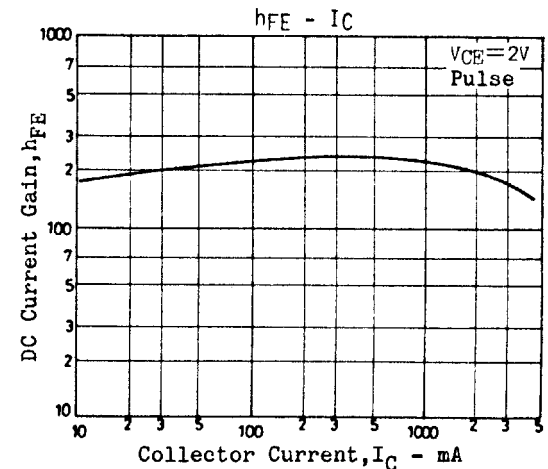
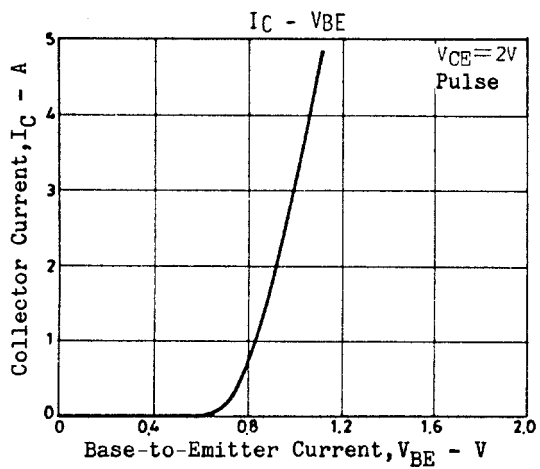
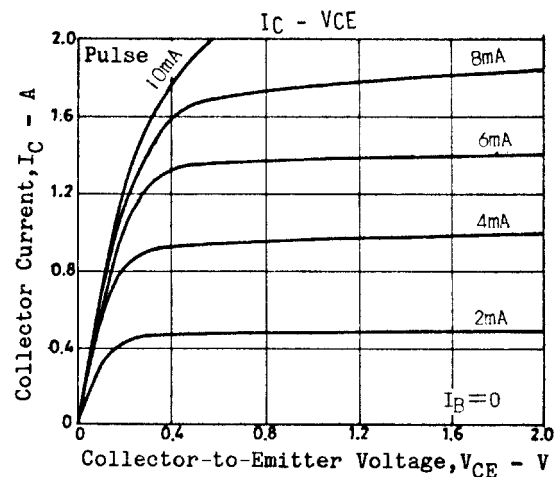
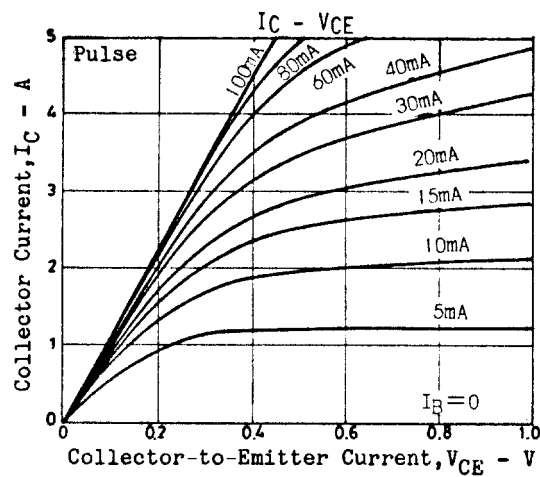
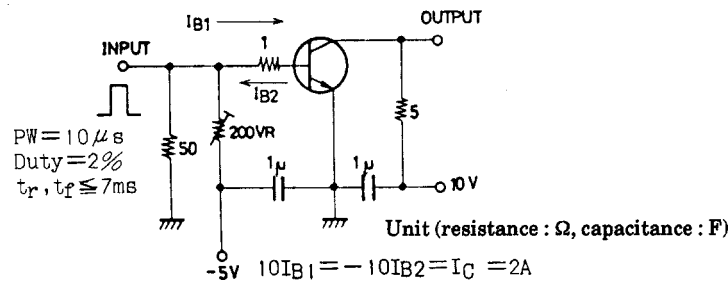
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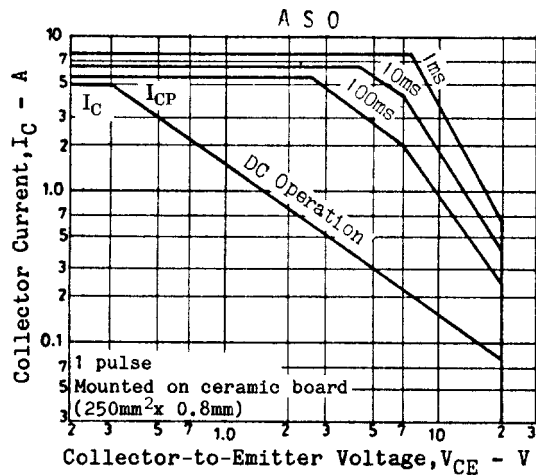
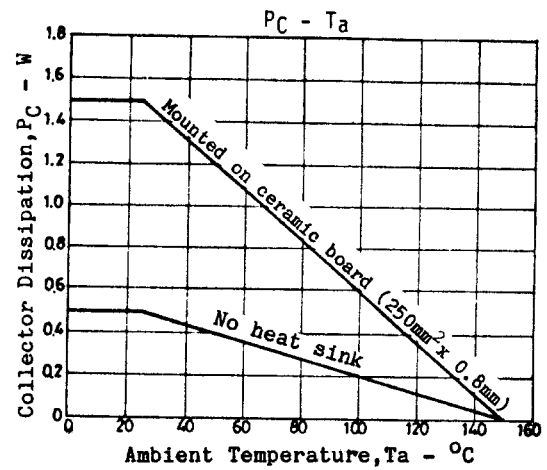
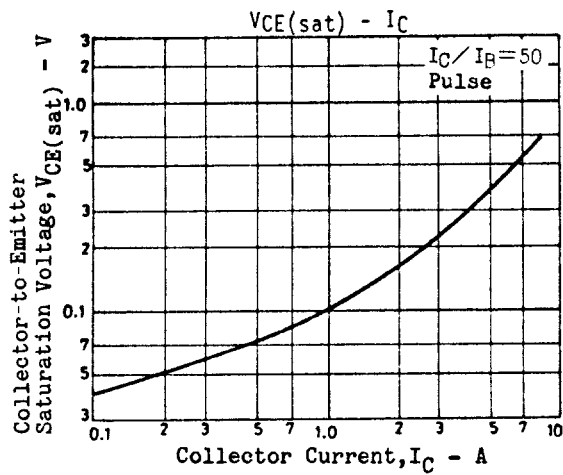
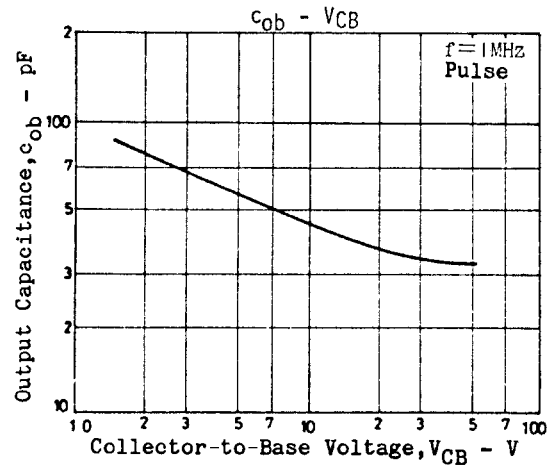
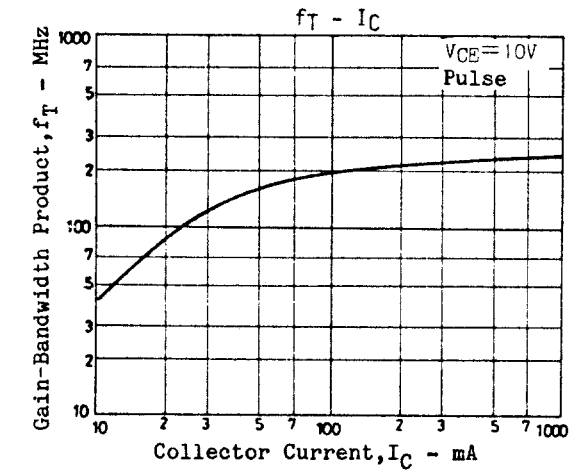
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3A, I_B=60mA$			500	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=3A, I_B=60mA$			1.5	V
Turn-ON Time	t_{on}	See specified Test Circuit.		30		ns
Storage Time	t_{stg}	See specified Test Circuit.		300		ns
Fall Time	t_f	See specified Test Circuit.		40		ns

Switching Time Test Circuit



2SD1628



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