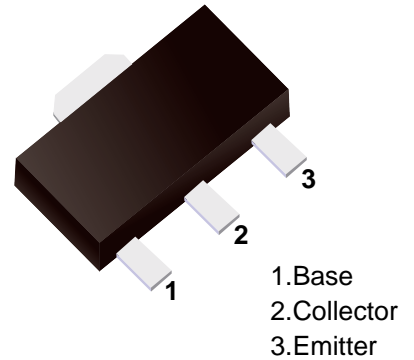


■ NPN Transistors

■ Features

- Collector Current Capability  $I_C=5A$
- Collector Emitter Voltage  $V_{CE0}=20V$



■ Simplified outline(SOT-89)

■ Absolute Maximum Ratings  $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	60	V
Collector - Emitter Voltage	$V_{CE0}$	20	
Emitter - Base Voltage	$V_{EB0}$	6	
Collector Current - Continuous	$I_C$	5	A
Collector Current - Pulse	$I_{CP}$	8	
Collector Power Dissipation (Note.1)	$P_C$	0.5	W
		1.5	
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150	

Note.1 : Mounted on ceramic substrate of 250mm<sup>2</sup>X0.8mm

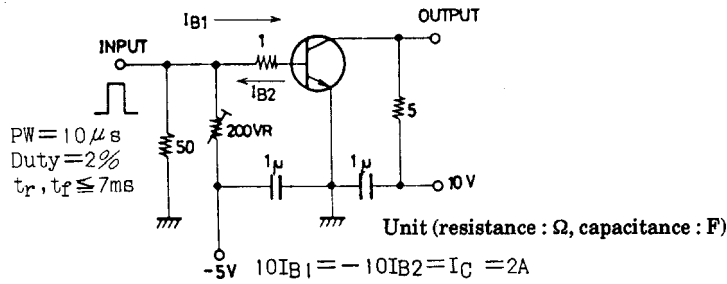
■ Electrical Characteristics  $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_C = 100 \mu A, I_E = 0$	60			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = 1 mA, I_B = 0$	20			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 100 \mu A, I_C = 0$	6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = 50 V, I_E = 0$			0.1	uA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5 V, I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3 A, I_B = 60 mA$			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 3 A, I_B = 60 mA$			1.5	
DC current gain	$h_{FE}$	$V_{CE} = 2V, I_C = 500 mA$	120		560	
		$V_{CE} = 2V, I_C = 3 A$	95			
Turn-on time	$t_{on}$	See Specified Test Circuit		30		ns
Storage time	$t_{stg}$			300		
Fall time	$t_f$			40		
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, f = 1 MHz$		45		pF
Transition frequency	$f_T$	$V_{CE} = 10V, I_C = 50 mA$		120		MHz

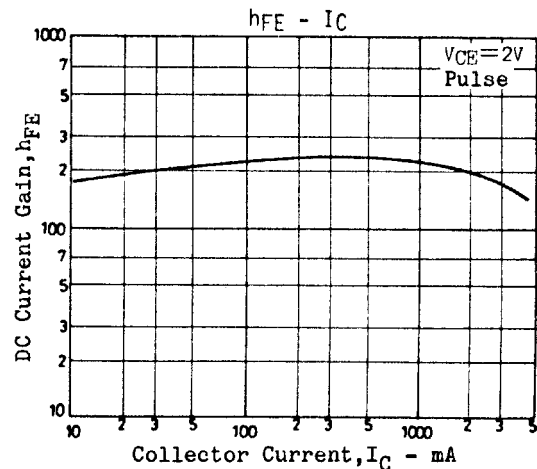
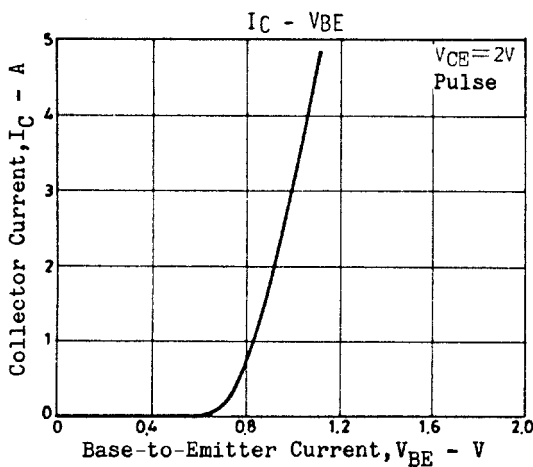
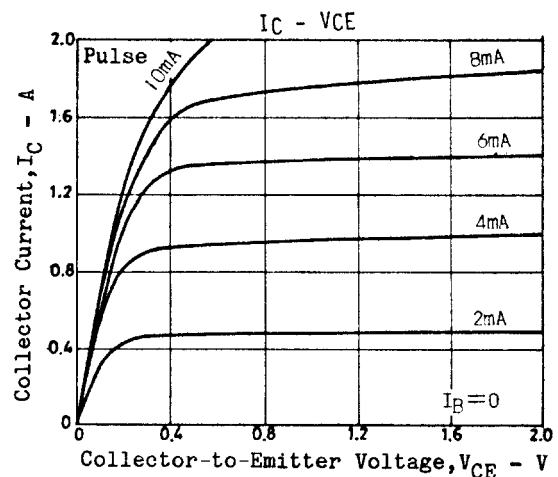
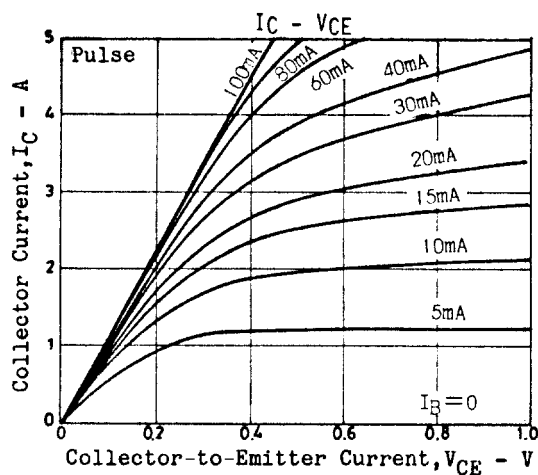
■ Classification of hfe(1)

Type	2SD1628-E	2SD1628-F	2SD1628-G
Range	120-200	160-320	280-560
Marking	DK E*	DK F*	DK G*

Switching Time Test Circuit



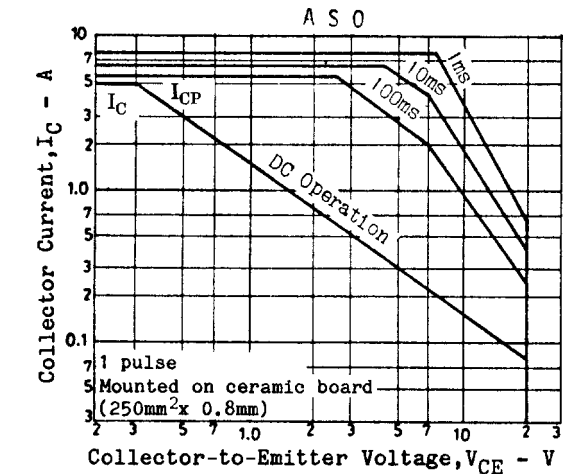
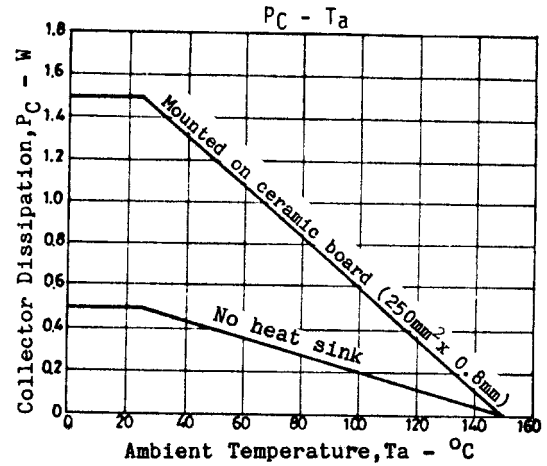
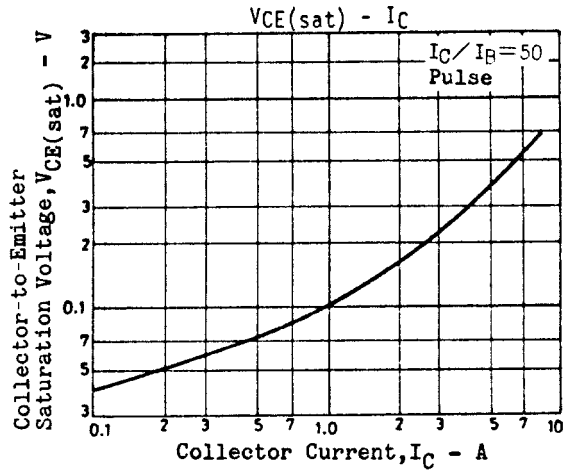
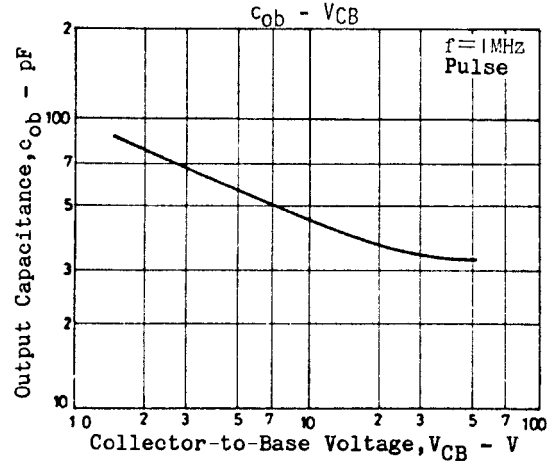
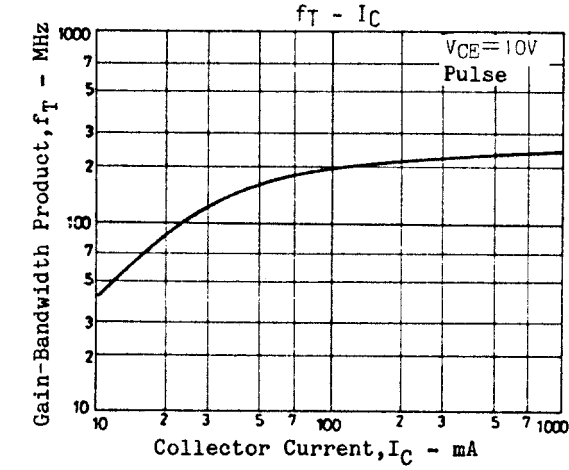
■ Typical Characteristics

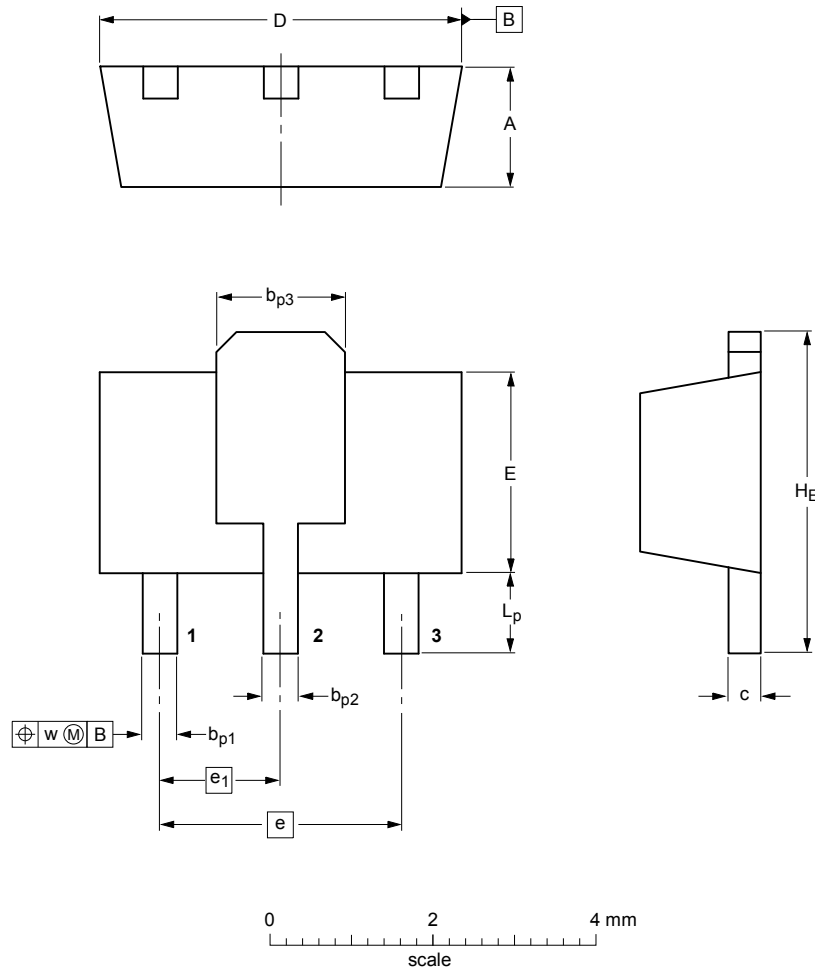


$f_T$  -  $I_C$

$C_{ob}$  -  $V_{CB}$

■ Typical Characteristics





**DIMENSIONS (mm are the original dimensions)**

UNIT	A	bp1	bp2	bp3	c	D	E	e	e1	HE	Lp	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.23	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	1.2 0.8	0.13

**Summary of Packing Options**

Package	Package Description	Packing Quantity	Industry Standard
SOT-89	Tape/Reel, 7" reel	1000	EIA-481-1