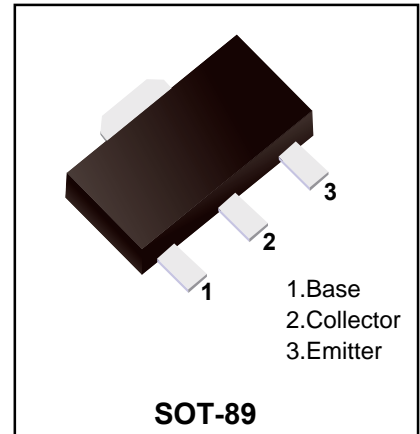


**NPN Transistors**

**Features**

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



**Absolute Maximum Rating (Ta=25°C)**

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	60	V
Collector - Emitter Voltage	$V_{CEO}$	20	
Emitter - Base Voltage	$V_{EBO}$	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	°C
Storage Temperature Range	$T_{stg}$	-55 to 150	

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

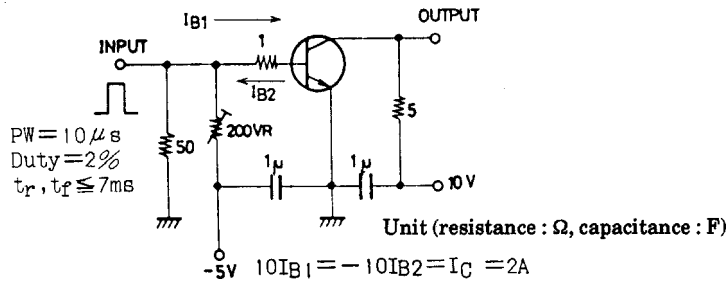
**Electrical Characteristics (Ta=25°C)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_C= 100 \mu A, I_E= 0$	60			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_C= 1 mA, I_B= 0$	20			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E= 100 \mu A, I_C= 0$	6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB}= 50 V, I_E= 0$			0.1	uA
Emitter cut-off current	$I_{EBO}$	$V_{EB}= 5V, I_C=0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3 A, I_B=60mA$			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C=3 A, I_B=60mA$			1.5	
DC current gain	$h_{FE}$	$V_{CE}= 2V, I_C=500mA$	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	$C_{ob}$	$V_{CB}= 10V, f=1MHz$		45		pF
Transition frequency	$f_T$	$V_{CE}= 10V, I_C=50mA$		120		MHz

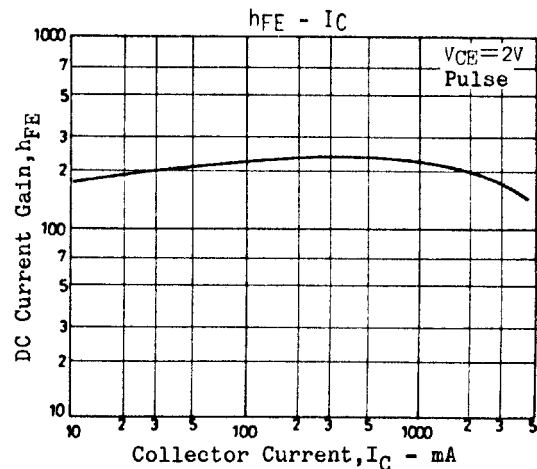
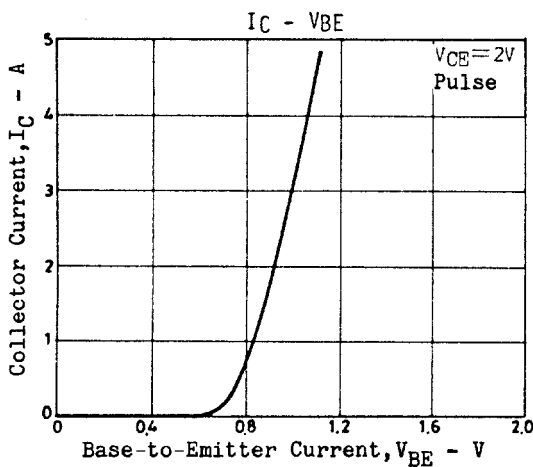
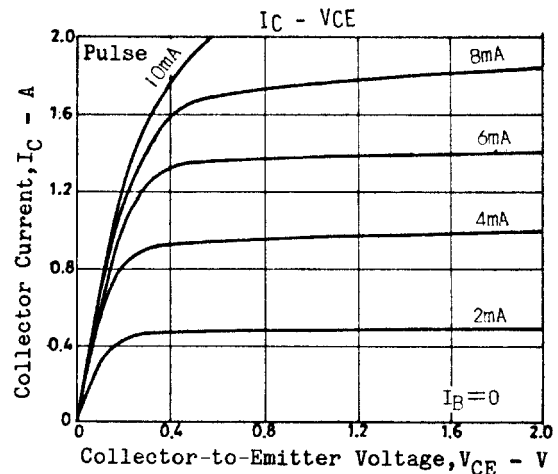
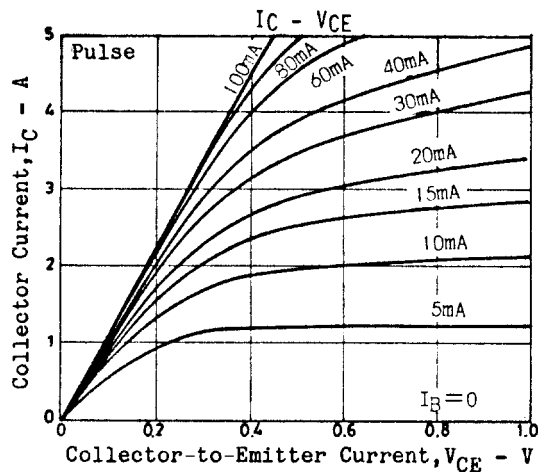
**h<sub>FE</sub> Classification**

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**



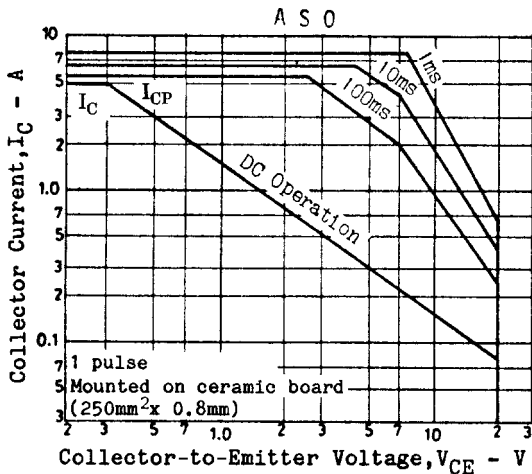
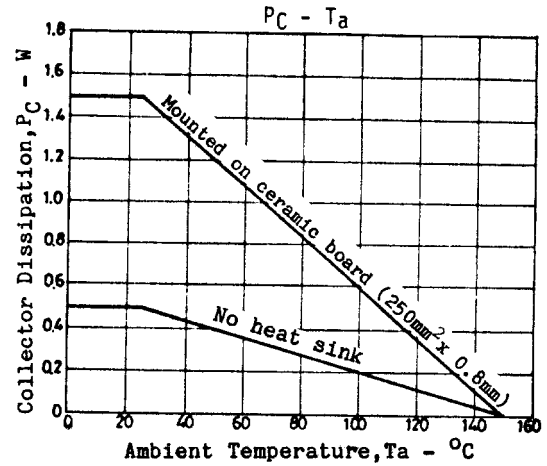
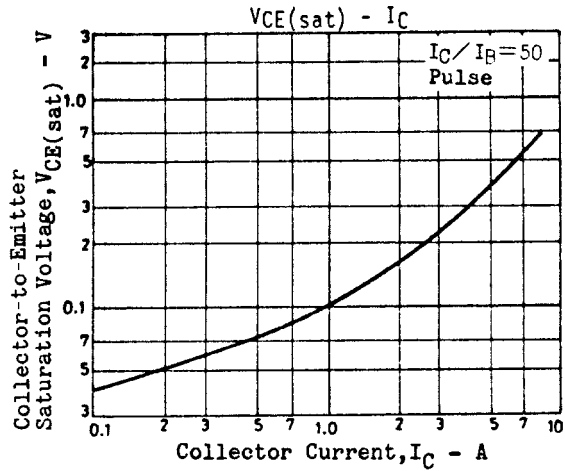
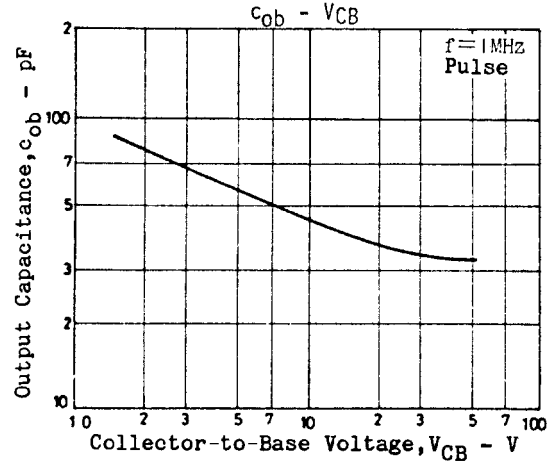
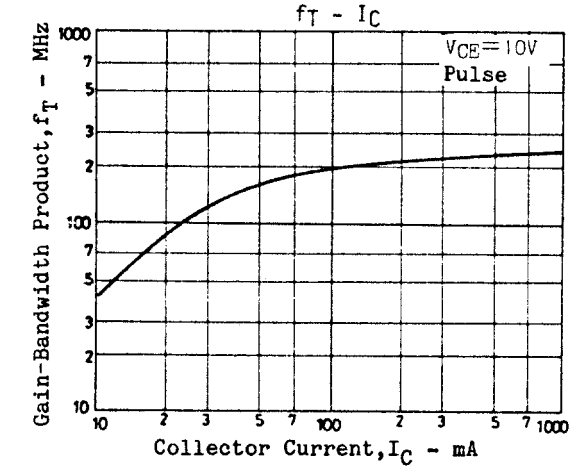
**Typical Characteristics**



$f_T - I_C$

$C_{ob} - V_{CB}$

Typical Characteristics



**Ordering information**

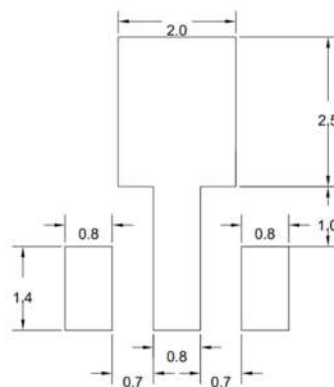
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

**Package Dimensions**

**SOT-89**

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

**The recommended mounting pad size**



UNIT:MM

## Disclaimer

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