

**DESCRIPTION**

The 2SD1628-E, 2SD1628-F, 2SD1628-H and 2SD1628-G are available in the SOT-89 package.

ORDERING INFORMATION

Package Type	Part Number
SOT-89	2SD1628-E
	2SD1628-F
	2SD1628-H
	2SD1628-G
SPQ	1,000pcs/Reel
AiT provides all RoHS Compliant Products	

 h_{FE} CLASSIFICATION

Rank	Range
E	120 ~ 200
F	160 ~ 320
H	200 ~ 400
G	280 ~ 560

ABSOLUTE MAXIMUM RATINGS

$T_A = 25^{\circ}\text{C}$, unless otherwise specified.

V_{CBO} , Collector to Base Voltage	60 V
V_{CEO} , Collector to Emitter Voltage	20 V
V_{EBO} , Emitter to Base Voltage	6 V
I_C , Collector Current-Continuous	5 A
I_{CP} , Collector Current-Continuous	8 A
P_C , Collector Dissipation	0.5 W
T_J , Junction Temperature	150 $^{\circ}\text{C}$
T_{stg} , Storage Temperature	-55 ~ +150 $^{\circ}\text{C}$

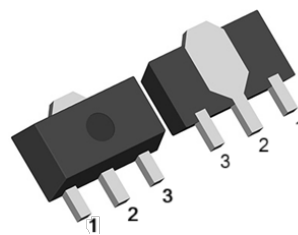
Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

FEATURE

- Low saturation voltage.
- Large current capacity.
- High h_{FE} gain.
- Very small size making it easy to provide high density, small sized hybrid ICs.
- Halogen free compliance.

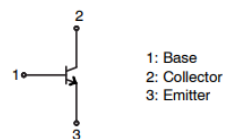
APPLICATION

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

PIN DESCRIPTION

SOT-89

ELECTRICAL CONNECTION



PIN#	DESCRIPTION
1	Base
2	Collector
3	Emitter

**ELECTRICAL CHARACTERISTICS** $T_A = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA},$ $I_B = 0$	20	-	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\text{ }\mu\text{A},$ $I_E = 0$	60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\text{ }\mu\text{A},$ $I_C = 0$	6	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 50\text{ V},$ $I_E = 0$	-	-	100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{ V},$ $I_E = 0$	-	-	100	nA
DC Current Gain	h_{FE}	$V_{CE} = 2\text{ V},$ $I_C = 0.5\text{ A}$	120	-	560	-
		$V_{CE} = 2\text{ V},$ $I_C = 3\text{ A}$	95	-	-	
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3\text{ A},$ $I_B = 60\text{ mA}$	-	-	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 3\text{ A},$ $I_B = 60\text{ mA}$	-	-	1.5	V
Transition Frequency	f_T	$V_{CE} = 10\text{ V},$ $I_E = 50\text{ A}$ $f = 10\text{ MHz}$	-	120	-	MHz
Output Capacitance	C_{OB}	$V_{CB} = 10\text{ V},$	-	45	-	pF



TYPICAL CHARACTERISTICS

Fig 1. $I_C - V_{CE}$

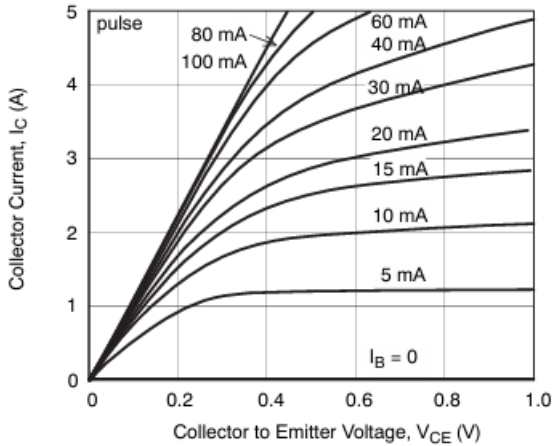


Fig 2. $I_C - V_{CE}$

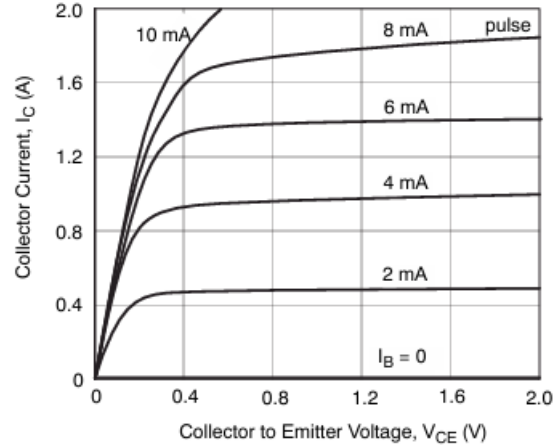


Fig 3. $I_C - V_{BE}$

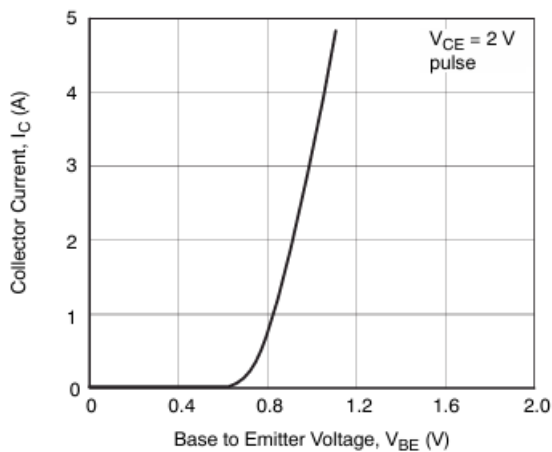


Fig 4. $h_{FE} - I_C$

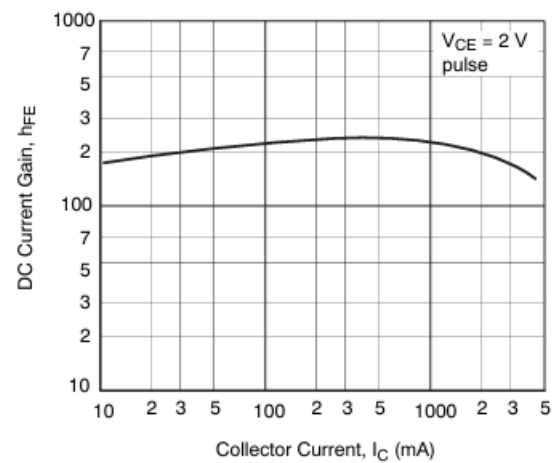


Fig 5. $f_T - I_C$

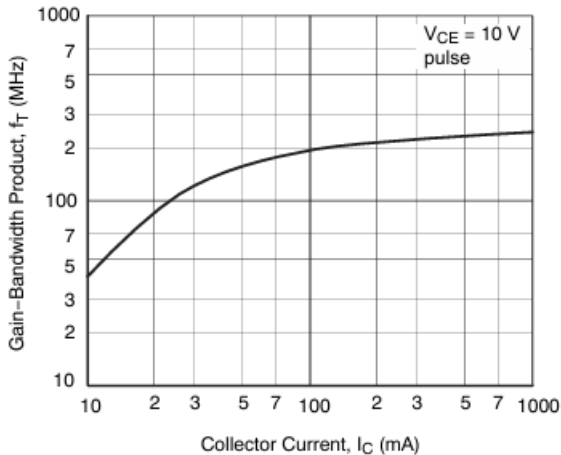


Fig 6. $C_{ob} - V_{CB}$

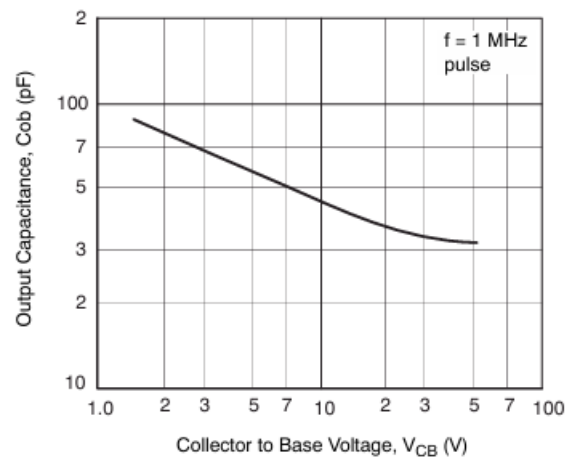




Fig 7. $V_{CE(sat)}$ - I_C

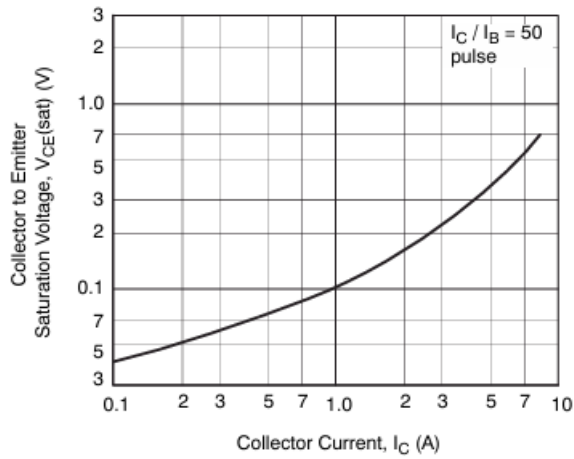


Fig 8. P_C - T_A

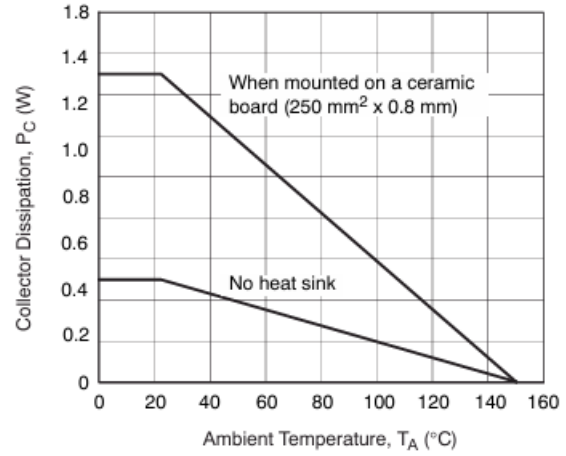
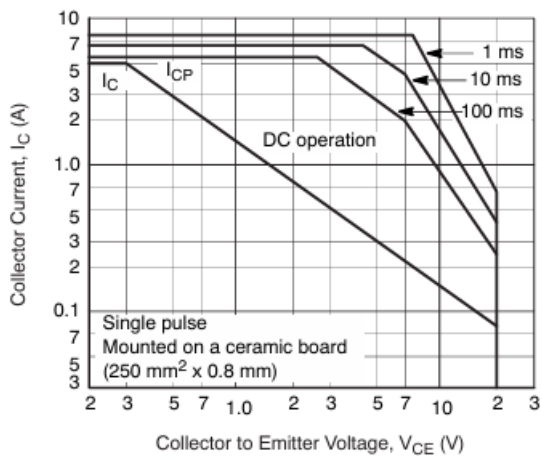
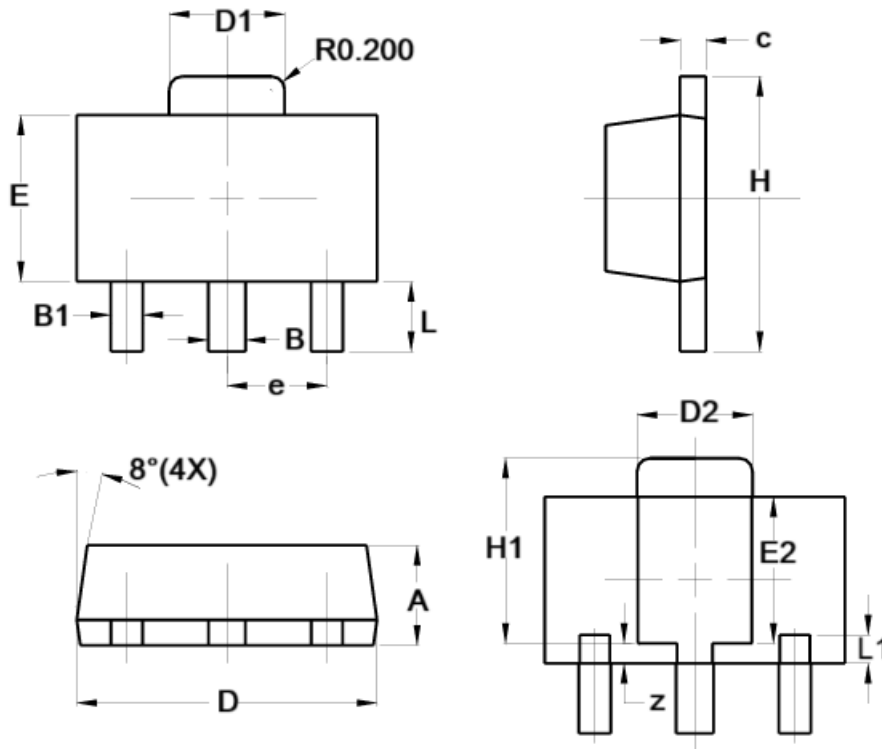


Fig 9. SOA



**PACKAGE INFORMATION**

Dimension in SOT-89 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A	1.400	1.600
B	0.500	0.620
B1	0.420	0.540
c	0.350	0.430
D	4.440	4.600
D1	1.620	1.830
D2	1.610	1.810
E	2.400	2.600
E2	2.050	2.350
e	1.500 TYP.	
H	3.950	4.250
H1	2.630	2.930
L	0.900	1.200
L1	0.327	0.527
z	0.200	0.400

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