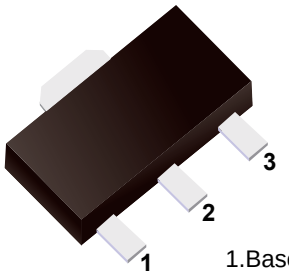
NPN General Purpose Amplifier



1.Base
2.Collector
3.Emitter

SOT-89

FEATURES

- Case:SOT-89
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260'C/10seconds at terminals

Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Characteristics	Symbols	Value	Units
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	5	A
Collector Current (Pulse)	I_{CP}	8	A
Collector Dissipation (Note 1)	P_C	500	mW
		1.5	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not beassumed, damage may occur and reliability may be affected.
1. When mounted on ceramic substrate (250 mm^2 x 0.8 mm).

Electrical Characteristics(Ta=25°C unless otherwise noted)

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Collector Cutoff Current	V_{CB} = 50 V, I_E = 0 A	I_{CBO}	-	-	100	nA
Emitter Cutoff Current	V_{EB} = 5 V, I_C = 0 A	I_{EBO}	-	-	100	nA
DC Current Gain	V_{CE} = 2 V, I_C = 0.5 A	$h_{FE(1)}$	120	-	560	
	V_{CE} = 2 V, I_C = 3 A	$h_{FE(2)}$	95	-	-	
Gain−Bandwidth Product	V_{CE} = 10 V, I_C = 50 mA	f_T	-	120	-	MHz
Output Capacitance	V_{CB} = 10 V, f = 1 MHz	C_{ob}	-	45	-	pF
Collector to Emitter Saturation Voltage	I_C = 3 A, I_B = 60 mA	$V_{CE(sat)}$	-	-	0.5	V
Base to Emitter Saturation Voltage	I_C = 3 A, I_B = 60 mA	$V_{BE(sat)}$	-	-	1.5	V
Turn−On Time	See specified Test Circuit	t_{on}	-	30	-	ns
Storage Time		t_{stg}	-	300	-	ns
Fall Time		t_f	-	40	-	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product perform ance may not be indicated by the Electrical Characteristics if operated under different conditions.

h_{FE} CLASSIFICATION

RANK	2SD1628SI-E	2SD1628SI-F	2SD1628SI-G
RANGE	120-200	160-320	280-560
MARKING	DKE*	DKF*	DKG*

Typical Characteristics

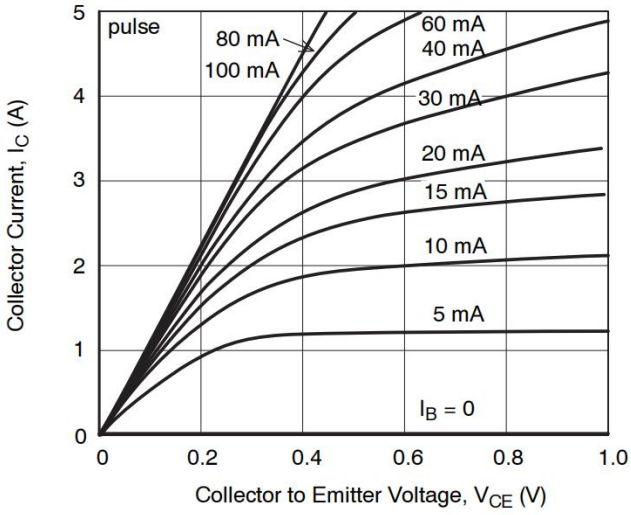


Figure 1. I_C – V_{CE}

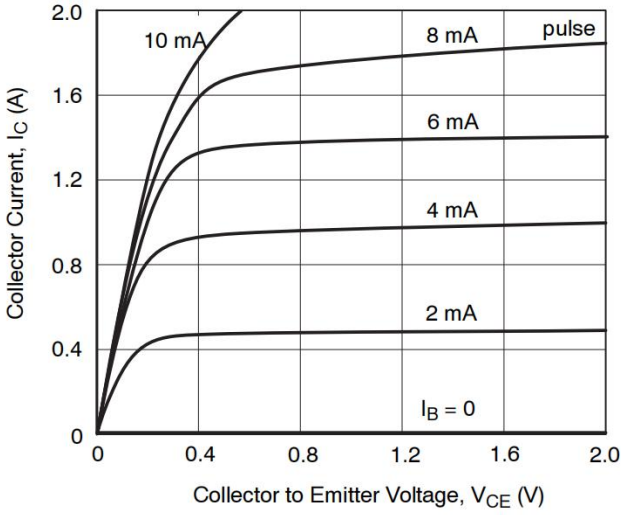


Figure 2. I_C – V_{CE}

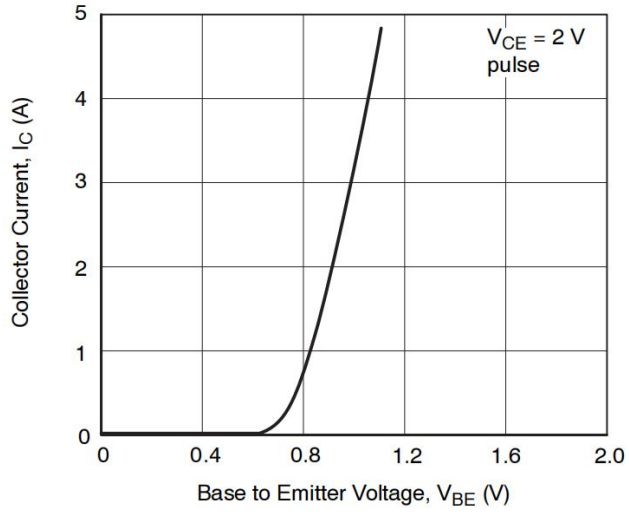


Figure 3. I_C – V_{BE}

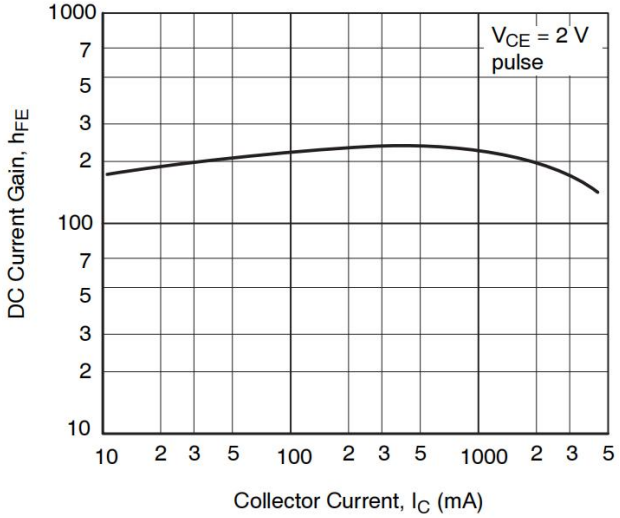


Figure 4. h_{FE} – I_C

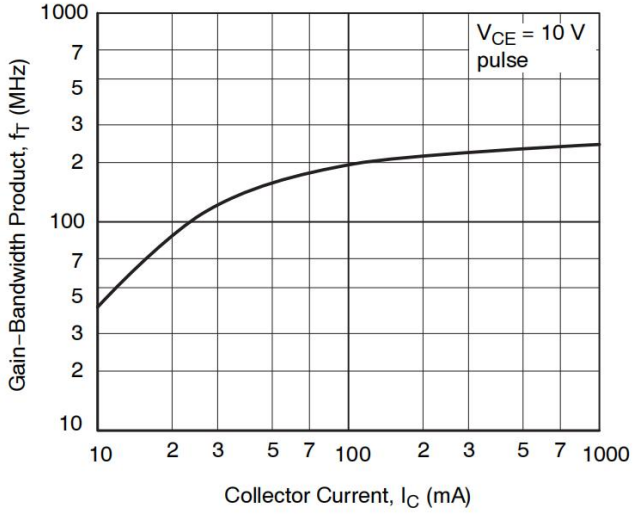


Figure 5. f_T – I_C

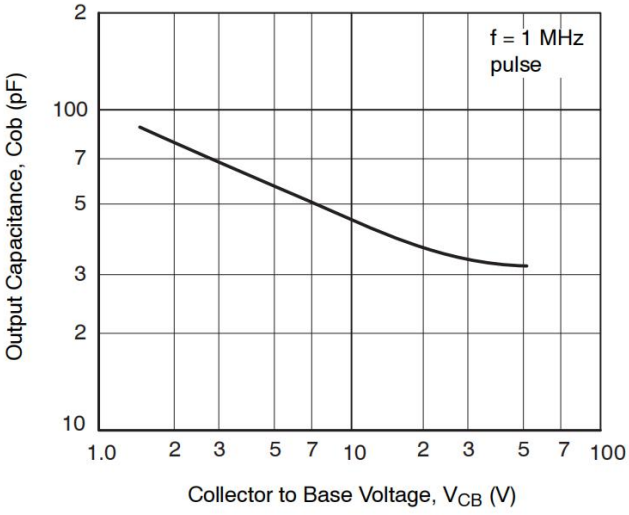


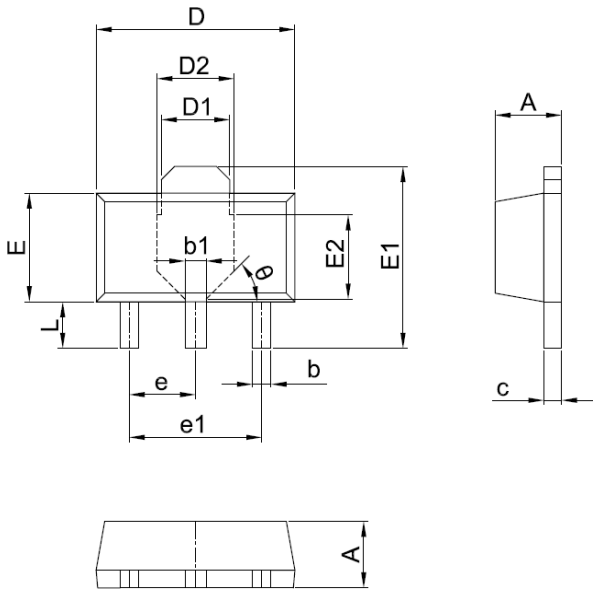
Figure 6. Cob – V_{CB}

Ordering information

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

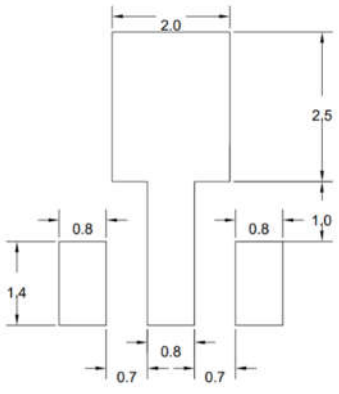
Package Dimensions

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

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