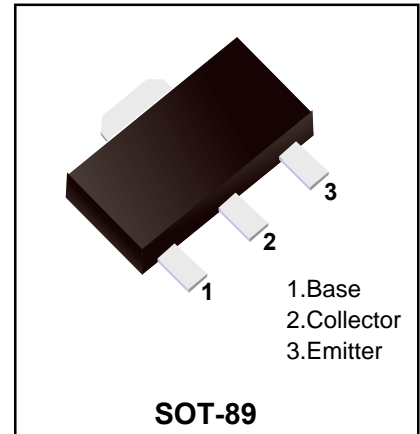


NPN Silicon Power Transistor

The transistor is subdivided into four groups, R, Q, P and E, according to its DC current gain.



Absolute Maximum Ratings (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current	I_C	3	A
Peak Collector Current (t = 10 ms)	I_{CP}	7	A
Total power dissipation (Ta = 25 °C)	P_{tot}	1	W
Total power dissipation (Tc = 25 °C)	P_{tot}	10	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at Ta = 25°C

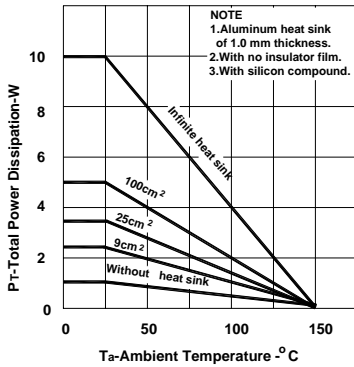
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at $V_{CE} = 2 V, I_C = 20 mA$	h_{FE}	30	-	-	
at $V_{CE} = 2 V, I_C = 1 A$ Current Gain Group	R h_{FE}	60	-	120	
	Q h_{FE}	100	-	200	
	P h_{FE}	160	-	320	
	E h_{FE}	200	-	400	
Collector Base Cutoff Current at $V_{CB} = 30 V$	I_{CBO}	-	-	1	μA
Emitter Base Cutoff Current at $V_{EB} = 3 V$	I_{EBO}	-	-	1	μA
Collector Emitter Saturation Voltage at $I_C = 2 A, I_B = 0.2 A$	$V_{CE(sat)}$	-	-	0.5	V
Base Emitter Saturation Voltage at $I_C = 2 A, I_B = 0.2 A$	$V_{BE(sat)}$	-	-	2	V
Gain Bandwidth Product at $V_{CE} = 5 V, I_C = 0.1 A$	f_T	-	90	-	MHz
Output Capacitance at $V_{CB} = 10 V, f = 1 MHz$	C_{ob}	-	45	-	pF

h_{FE} Classification

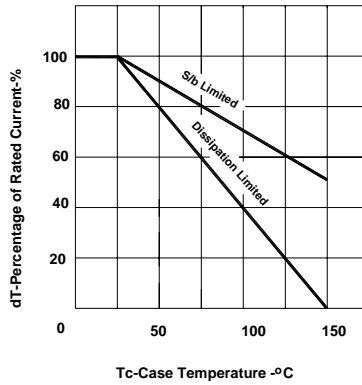
Type	2SD882SI-R	2SD882SI-Q	2SD882SI-P	2SD882SI-E
Range	60-120	100-200	160-320	200-400
Marking	D882 R	D882 Q	D882	D882 E

TYPICAL CHARACTERISTICS (Ta=25°C)

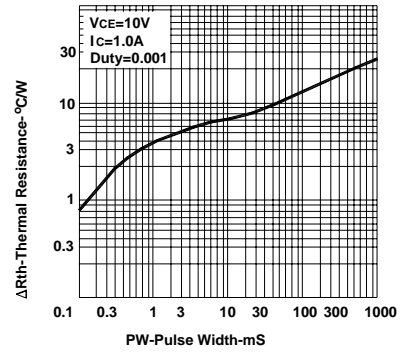
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



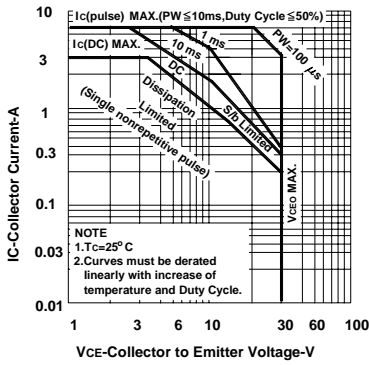
DERATING CURVES FOR ALL TYPES



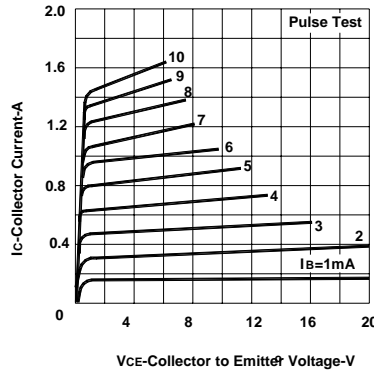
THERMAL RESISTANCE vs. PULSE WIDTH



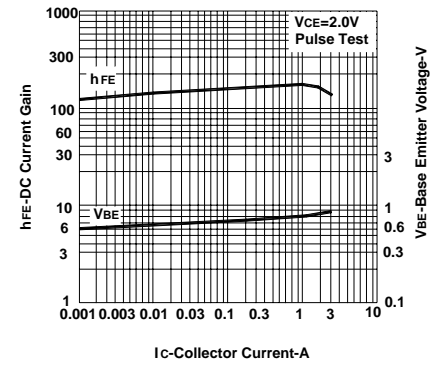
SAFE OPERATING AREAS



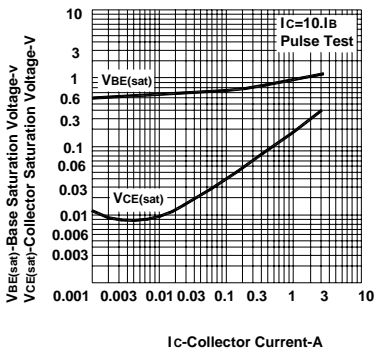
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



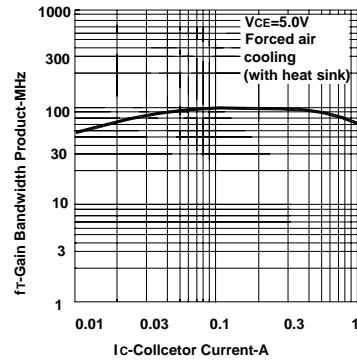
DC CURRENT GAIN, BASE TO EMITTER VOLTAGE vs. COLLECTOR CURRENT



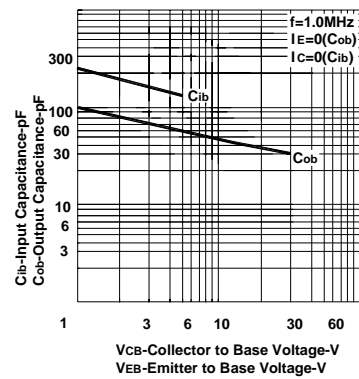
BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



INPUT AND OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



Ordering information

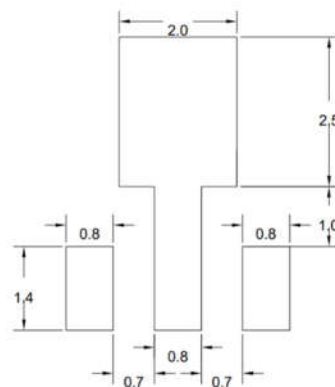
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel,7"reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

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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