

SMD Power Transistor (NPN)

Features

- Designed for general purpose power applications
- Rugged and reliable
- RoHS compliance



D-PACK
(TO-252)



Mechanical Data

Case:	D-PACK(TO-252), Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.3 grams

Maximum Ratings *(T_{Ambient}=25°C unless noted otherwise)*

Symbol	Description	Value	Unit	
V_{CEO}	Collector-Emitter Voltage	2SD669XD	120	V
		2SD669AXD	160	
V_{EBO}	Emitter-Base Voltage	5	V	
I_C	Collector Current Continuous	1.5	A	
I_{CP}	Collector Current Peak	3	A	
P_D	Power Dissipation at T _C =25°C	2	W	
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-40 to +150	°C	

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2SD669XD/2SD669AXD

Thermal Characteristics

Symbol	Description	Value	Unit
RthJC	Thermal Resistance from Junction to Case	4.5	°C/W

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Parameter	Min	Typ	Max	Unit	Test Conditions
BV _{CBO}	Collector to Base Breakdown Voltage	180			V	I _C =1mA, I _E =0
BV _{CEO}	Collector to Emitter Breakdown Voltage	2SD669XD	120		V	I _C =10mA, R _{BE} =∞
		2SD669AXD	160			
BV _{EBO}	Emitter to Base Breakdown Voltage	5			V	I _E =1mA, I _C =0
I _{CBO}	Collector Cut-off Current			10	μA	V _{CB} =160V, I _E =0
h _{FE1}	DC Current Gain	60		320		V _{CE} =5V, I _C =150mA (Note)
h _{FE2}		30				V _{CE} =5V, I _C =500mA (Note)
V _{CE(SAT)}	Collector-Emitter Saturation Voltage			1	V	I _C =600mA, I _B =50mA (Note)
V _{BE}	Base-Emitter Voltage			1.5	V	V _{CE} =5V, I _C =150mA (Note)
f _T	Current Gain Bandwidth Product		140		MHz	V _{CE} =5V, I _C =150mA (Note)
C _{ob}	Output Capacitance		14		pF	V _{CB} =10V, I _E =0, f=1MHz

Note: Pulse test.

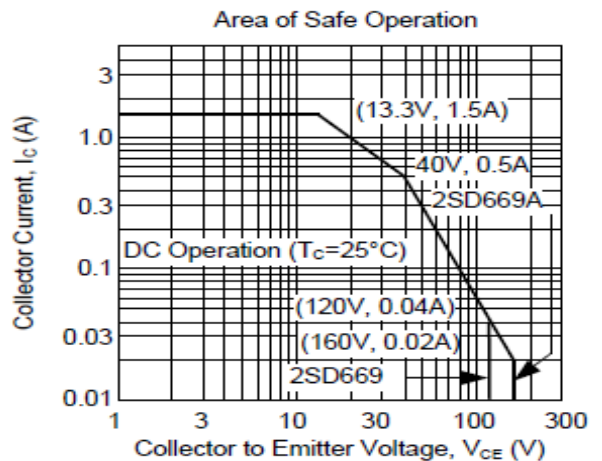
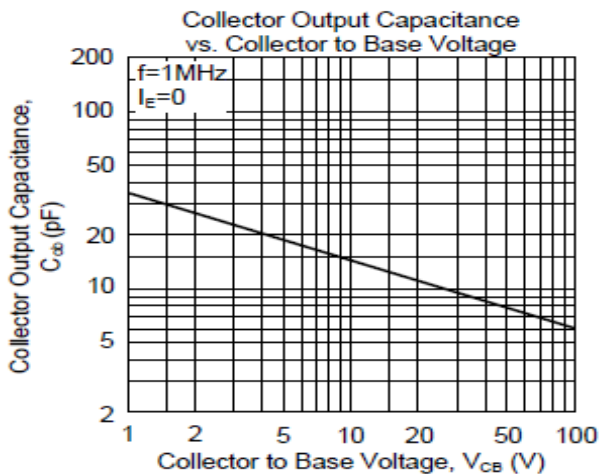
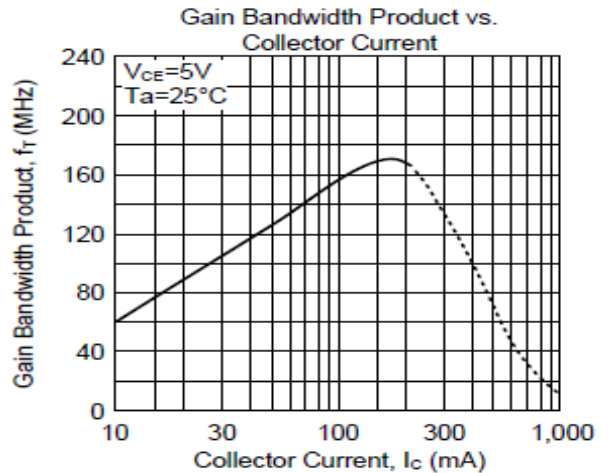
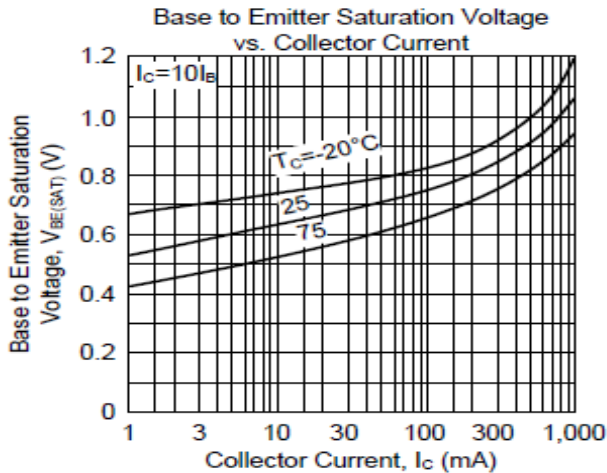
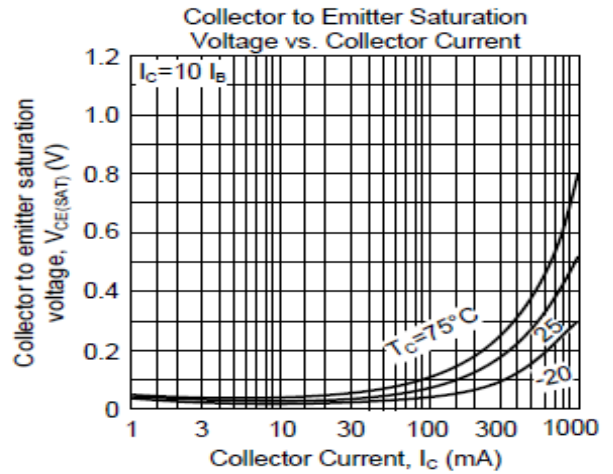
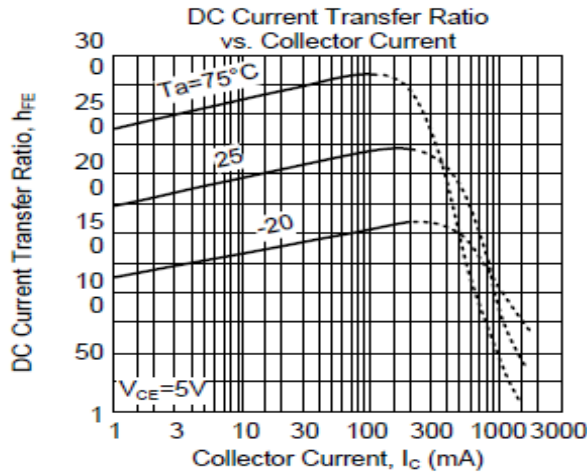
Classification of h_{FE1}

Rank	B	C	D
Range	60-120	100-200	160-320

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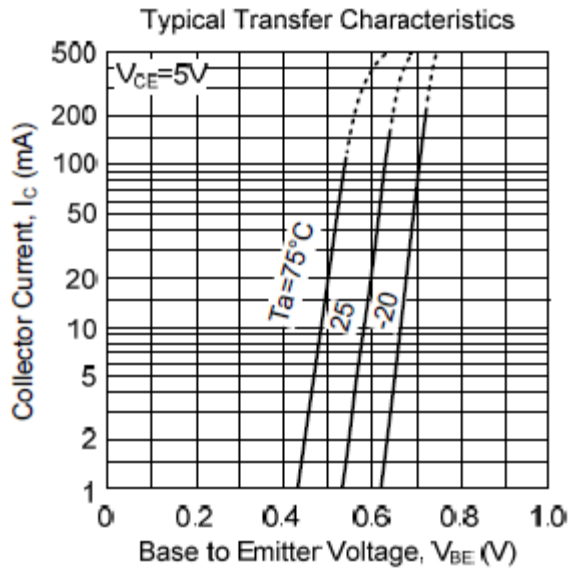
2SD669XD/2SD669AXD

Typical Characteristics

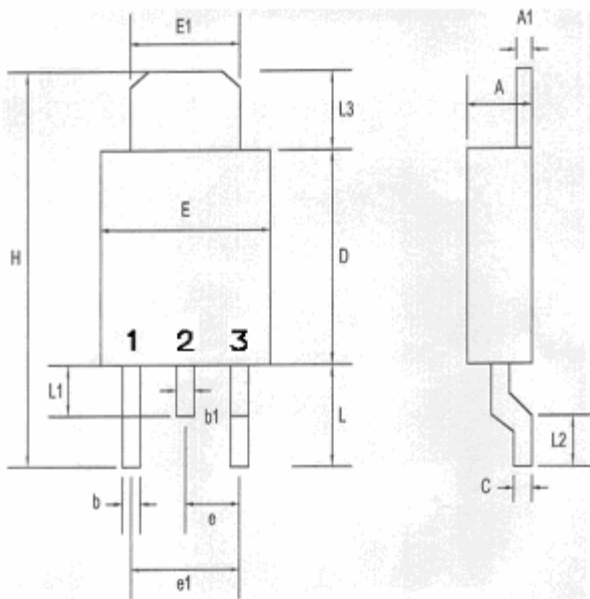


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Dimensions in mm



Symbol	Dimensions In Millimeters			Dimensions In Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.18	2.28	2.38	0.086	0.090	0.094
A1	0.45	0.50	0.55	0.018	0.020	0.022
b	0.51	0.70	0.89	0.020	0.028	0.035
b1	—	—	0.95	—	—	0.037
C	0.45	0.50	0.60	0.018	0.020	0.024
D	5.20	5.70	6.20	0.205	0.224	0.244
E	6.40	6.60	6.80	0.252	0.260	0.268
E1	5.21	5.34	5.46	0.205	0.210	0.215
e	2.03	2.28	2.53	0.080	0.090	0.100
e1	3.96	4.57	5.18	0.156	0.180	0.204
H	9.40	9.90	10.40	0.370	0.390	0.409
L	2.20	2.50	2.80	0.087	0.098	0.110
L1	0.64	0.83	1.02	0.025	0.033	0.040
L2	0.90	1.20	1.50	0.035	0.047	0.059
L3	0.90	1.45	2.00	0.035	0.057	0.079

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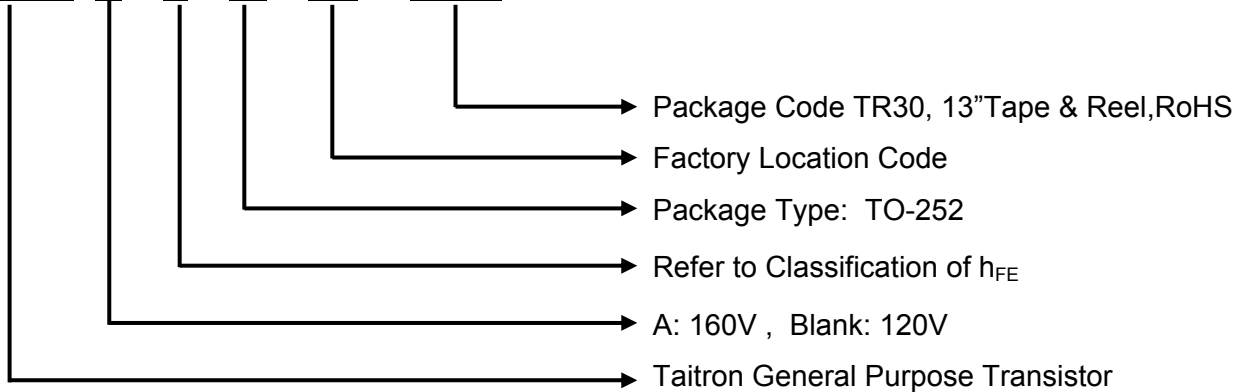
PIN CONFIGURATION
 1. BASE
 2. COLLECTOR
 3. EMITTER

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2SD669XD/2SD669AXD

Ordering Information

2SD669 A X D - XX - TR30



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