

Medium Power Transistor

2SD1758

FEATURES

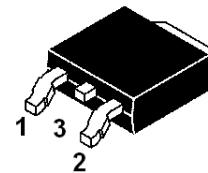
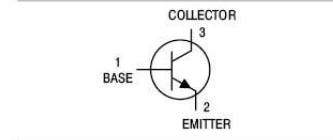
- Low $V_{CE(sat)}$.
 $V_{CE(sat)}=0.5V(Typ.)$
($I_C/I_B=2A/0.2A$)



- Complements the 2SB1182.

APPLICATIONS

- Epitaxial planar type.
- NPN silicon transistor.



TO-252

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Volage	40	V
V_{CEO}	Collector-Emitter Voltage	32	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current(DC)	2	A
I_{CP}	Collector Current(Pulse)	2.5	A
I_B	Base Current	1	A
P_C	Collector Power Dissipation	2	W
T_j, T_{stg}	Junction and Storage temperature range	-55 to +150	°C

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ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	$I_C=50\mu\text{A}, I_E=0$	40			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C=1\text{mA}, I_B=0$	32			V
Emitter-base breakdown voltage	V_{EBO}	$I_E=50\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=20\text{V}, I_E=0$			1.0	μA
Emitter cut-off current	I_{EBO}	$V_{EBO}=4\text{V}, I_C=0$			1.0	μA
DC current gain	h_{FE}	$V_{CE}=3\text{V}, I_C=0.5\text{A}$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C/I_B=2\text{A}/0.2\text{A}$		0.5	0.8	V
Transition frequency	f_T	$V_{CE}=5\text{V}, I_E=-50\text{mA}$ $f=100\text{MHz}$		100		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		30		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	P	Q	R
Range	82-180	120-270	180-390

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

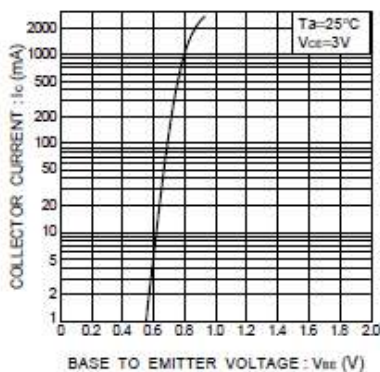


Fig.1 Grounded emitter propagation characteristics

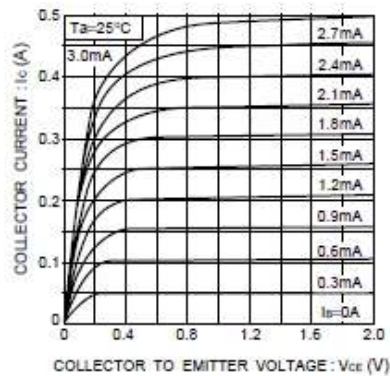


Fig.2 Grounded emitter output characteristics

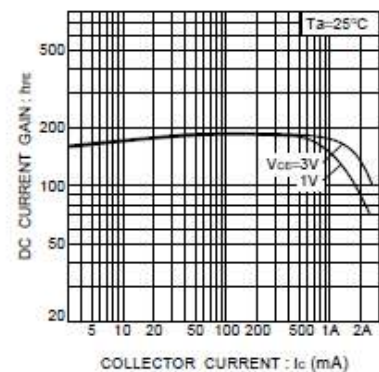


Fig.3 DC current gain vs. collector current

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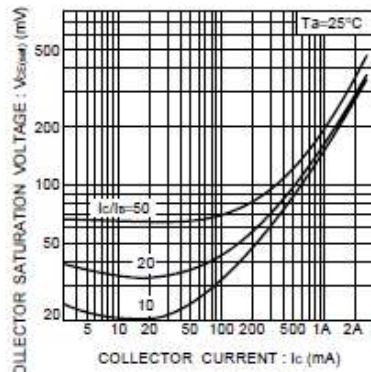


Fig.4 Collector-emitter saturation voltage vs. collector current

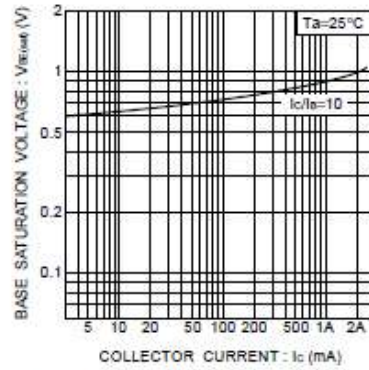


Fig.5 Collector-emitter saturation voltage vs. collector current

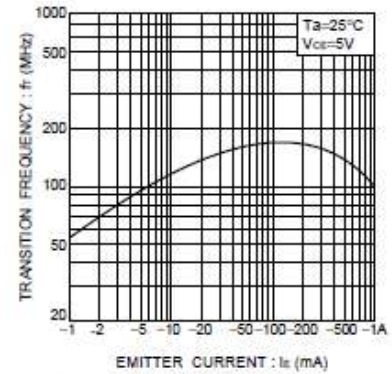


Fig.6 Transition frequency vs. emitter current

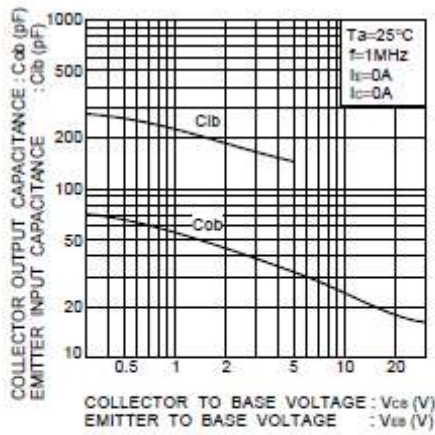


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

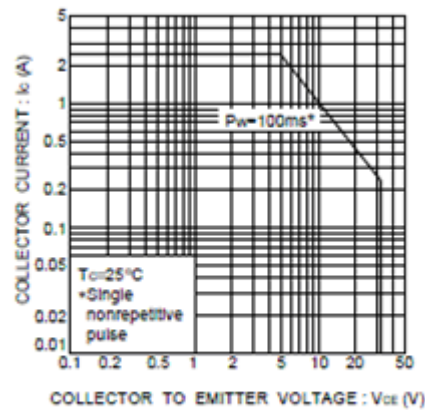


Fig.8 Safe operating area

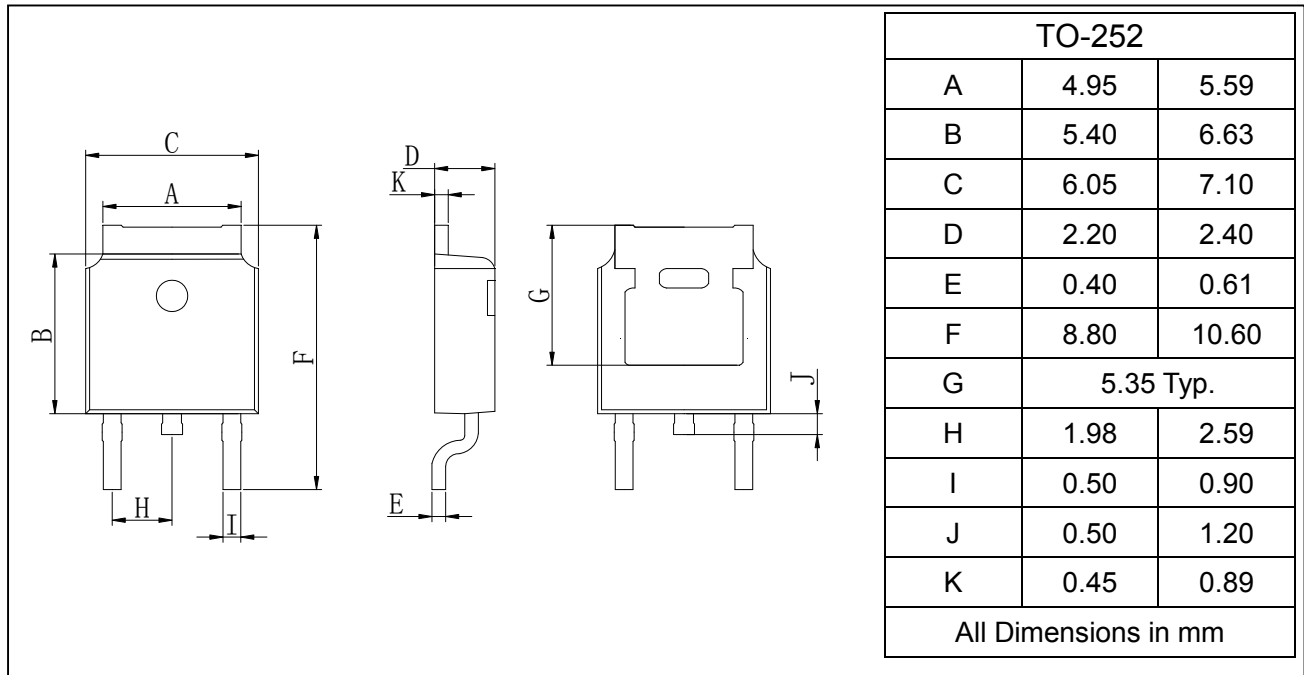
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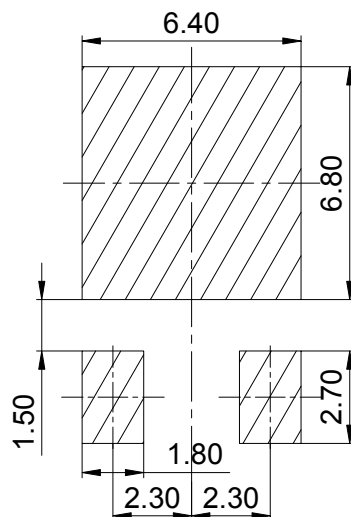
PACKAGE OUTLINE

Plastic surface mounted package

TO-252



SOLDERING FOOTPRINT



Unit:mm

Medium Power Transistor**2SD1758**

PACKAGE INFORMATION

Device	Package	Shipping
2SD1758	TO-252	80PCS/Tube
		2500PCS/Tape&Reel