



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

2SD1060 — NPN Epitaxial Planar Silicon Transistor 50V / 5A Switching Applications

Applications

- Suitable for relay drivers, high-speed inverters, converters, and other general large-current switching

Features

- Low collector-to-emitter saturation voltage : $V_{CE(sat)}=0.3V$ max / $I_C=3A$, $I_B= 0.3A$

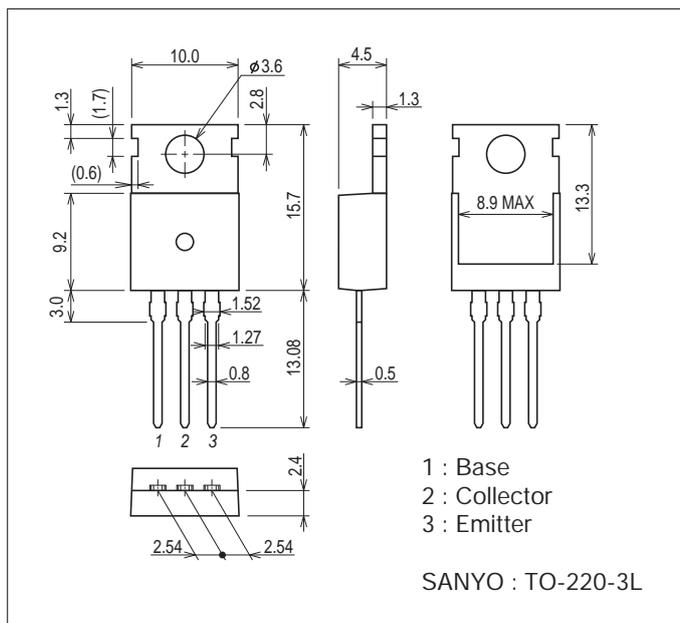
Specifications

Absolute Maximum Ratings at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		60	V
Collector-to-Emitter Voltage	V_{CEO}		50	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		5	A
Collector Current (Pulse)	I_{CP}		9	A
Collector Dissipation	P_C		1.75	W
		$T_c=25^\circ C$	30	W
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Package Dimensions

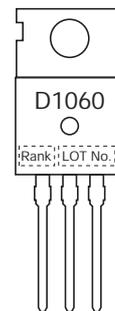
unit : mm (typ)
7536-002



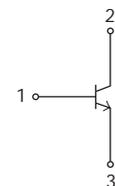
Product & Package Information

- Package : TO-220-3L
- JEITA, JEDEC : SC-46, TO-220AB
- Minimum Packing Quantity : 50 pcs./magazine

Marking



Electrical Connection



2SD1060

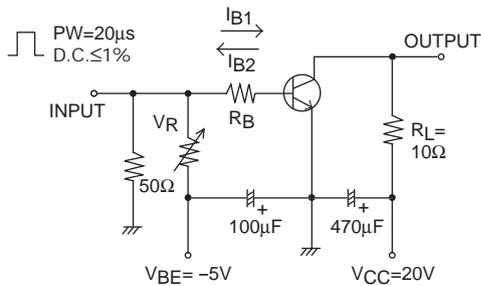
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =40V, I _E =0A			0.1	mA
Emitter Cutoff Current	IEBO	V _{EB} =4V, IC=0A			0.1	mA
DC Current Gain	h _{FE1}	V _{CE} =2V, IC=1A	100*		280*	
	h _{FE2}	V _{CE} =2V, IC=2A	80			
Gain-Bandwidth Product	f _T	V _{CE} =5V, IC=1A		30		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		100		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	IC=3A, IB=0.3A			0.3	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=1mA, IE=0A	60			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=1mA, R _{BE} =∞	50			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=1mA, IC=0A	6			V
Turn-On Time	t _{on}	See specified Test Circuit		0.1		μs
Storage Time	t _{stg}			1.4		μs
Fall Time	t _f			0.2		μs

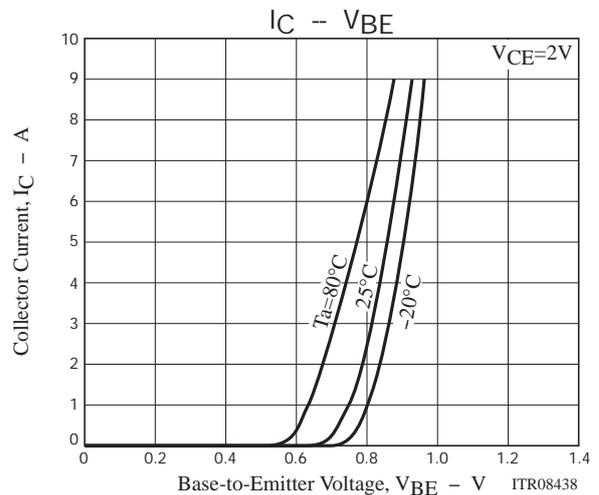
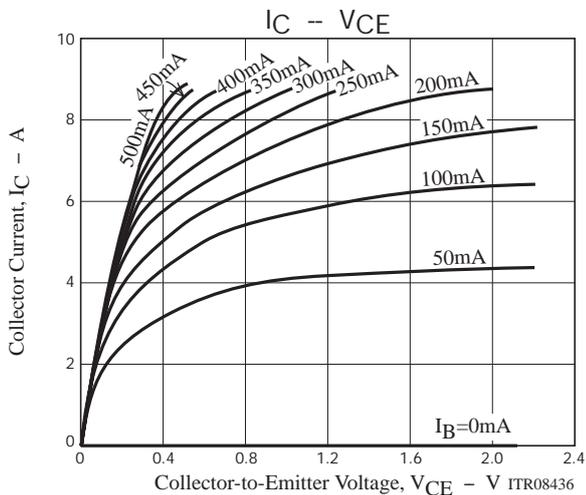
* : The 2SD1060 is classified by 1A h_{FE} as follows

Rank	R	S
h _{FE}	100 to 200	140 to 280

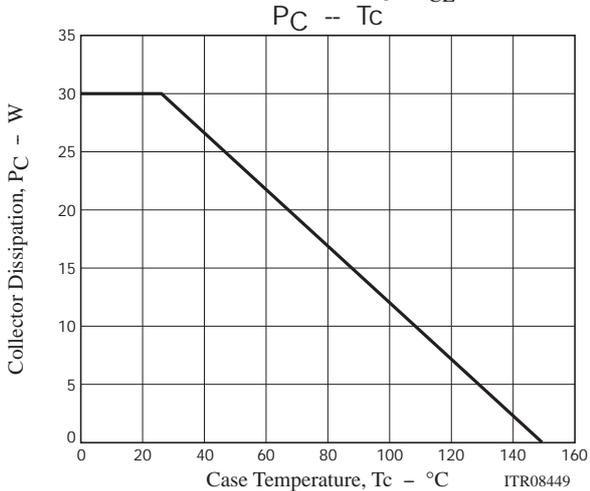
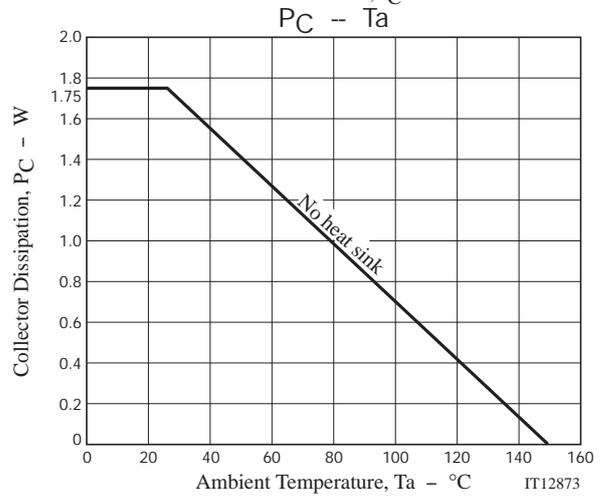
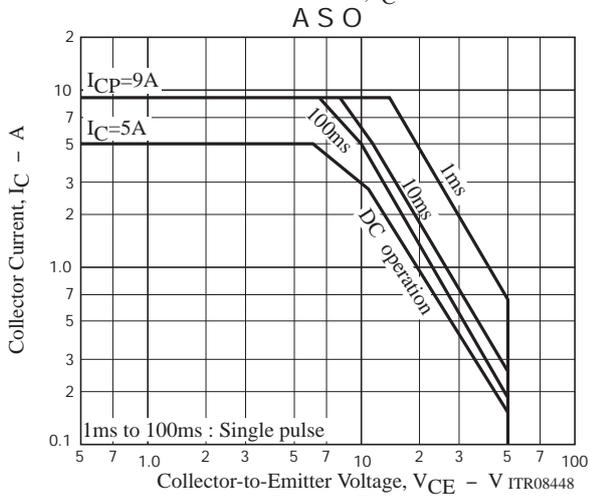
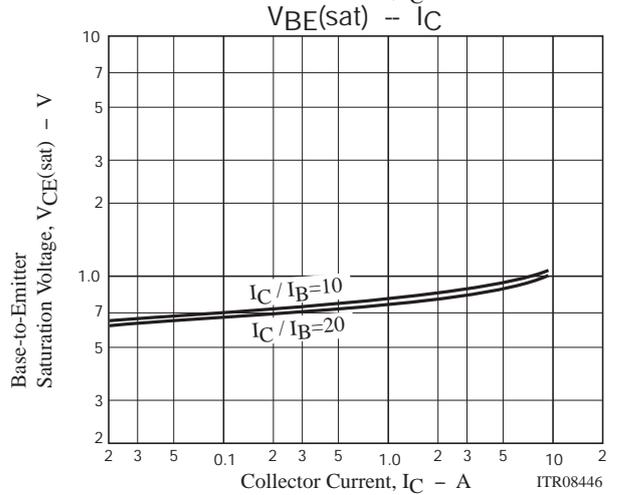
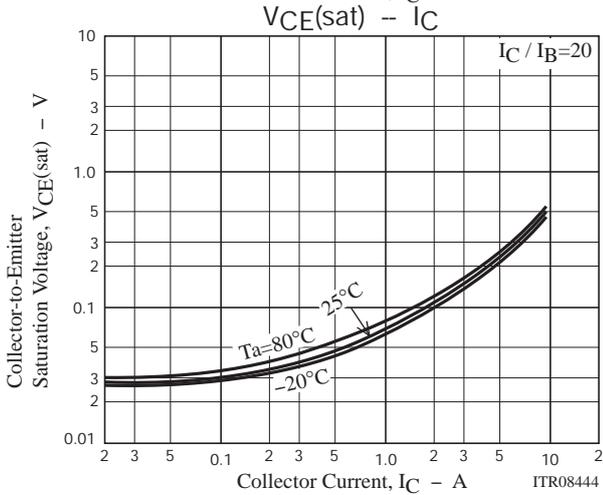
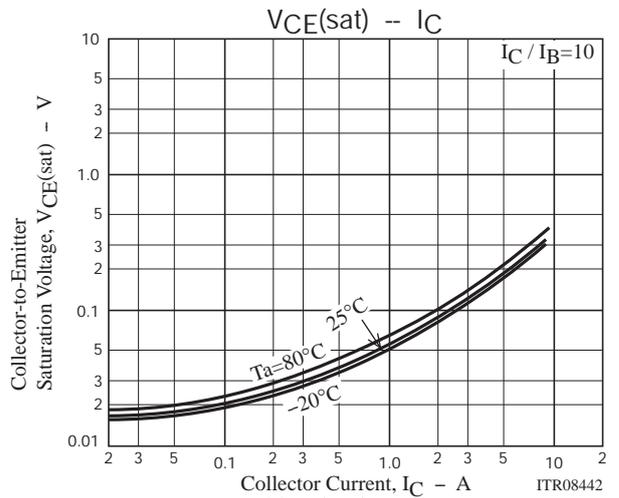
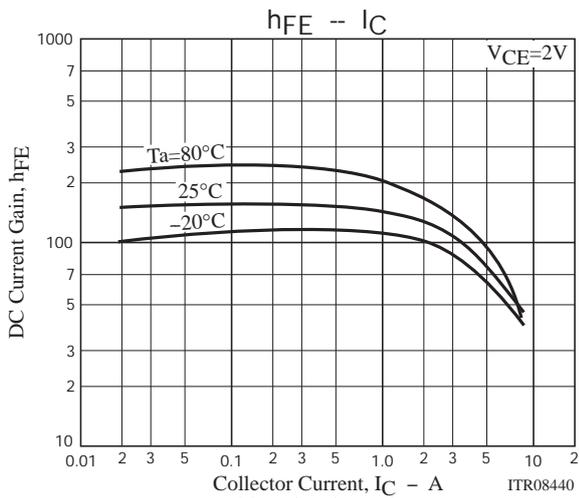
Switching Time Test Circuit



$$I_C = 10I_{B1} = -10I_{B2} = 2A$$



2SD1060



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