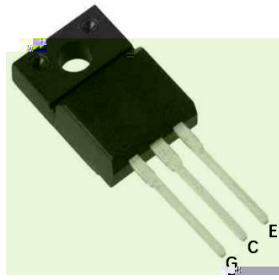


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IGBT Discrete



Features

High speed smooth switching device for hard & soft switching

Maximum junction temperature 175

P

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Breakdown Voltage	V_{CE}	650	V
DC Collector Current, limited by T_{jmax} $T_C=25^{\circ}C$ $T_C=100^{\circ}C$	I_C	15 8	A
Diode Forward Current, limited by T_{jmax} $T_C=25^{\circ}C$ $T_C=100^{\circ}C$	I_F	15 8	A
Continuous Gate-Emitter Voltage	V_{GE}	± 20	V
Transient Gate-Emitter Voltage ($t_p=10\mu s, D<0.010$)	V_{GE}	± 30	V
Turn off Safe Operating Area $V_{CE}=600V,$ T_j		40	A
Pulsed Collector Current, $V_{GE}=15V,$ t_p limited by T_{jmax}	I_{CM}	40	A
Short Circuit Withstand Time, $V_{GE}=15V,$	T_{sc}	5	
Diode Pulsed Current, t_p limited by T_{jmax}	I_{Fpuls}	40	A
Power Dissipation, $T_j=175^{\circ}C, T_c=25^{\circ}C$	P_{tot}	31	W

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Electrical Characteristics of the IGBT $T_j=25$ unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static						
Collector-Emitter Breakdown Voltage	BV_{CES}	$V_{GE}=0V, I_C$	650		-	V
Gate Threshold Voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C=1mA$	4.4	5.2	6.0	V

Collector-Emitter
Saturation Voltage

$V_{CE(sat)}$

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Electrical Characteristics of the Diode $T_j = 25$ unless otherwise specified

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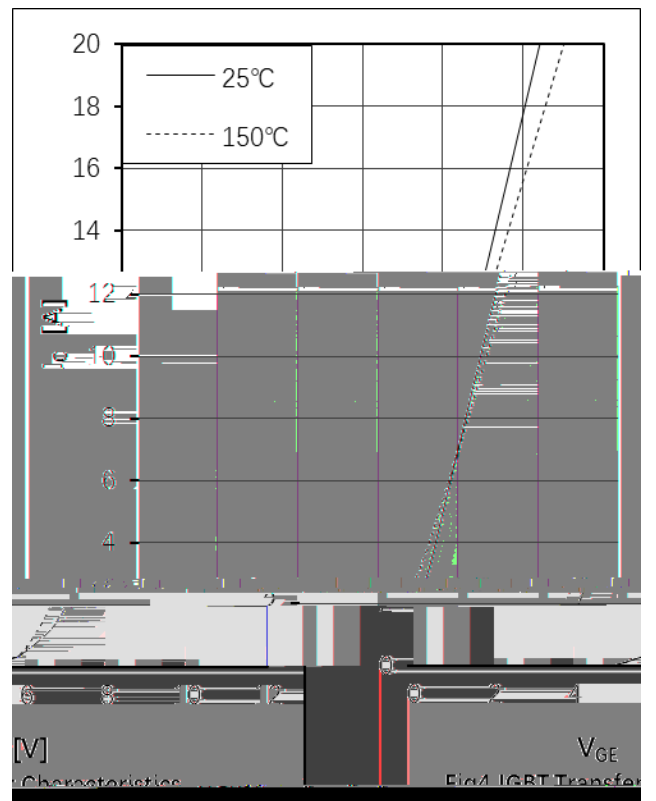
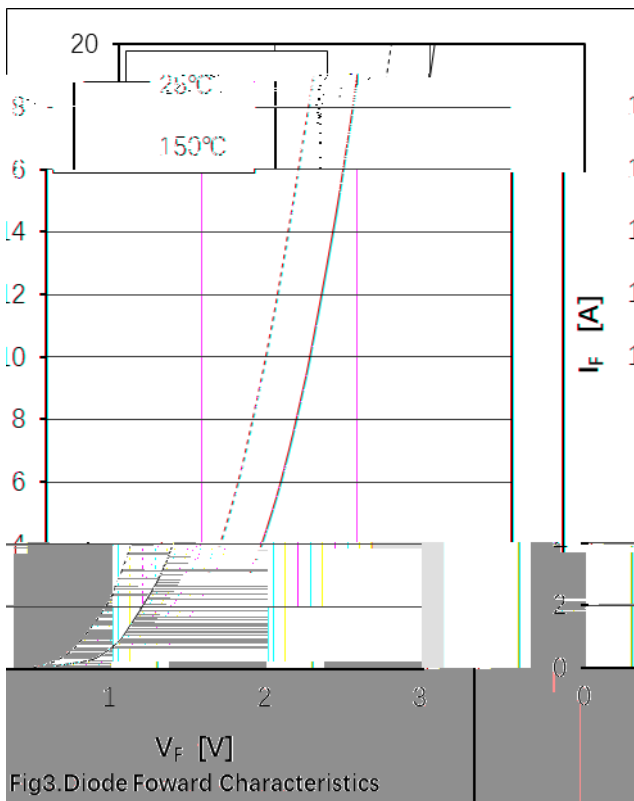
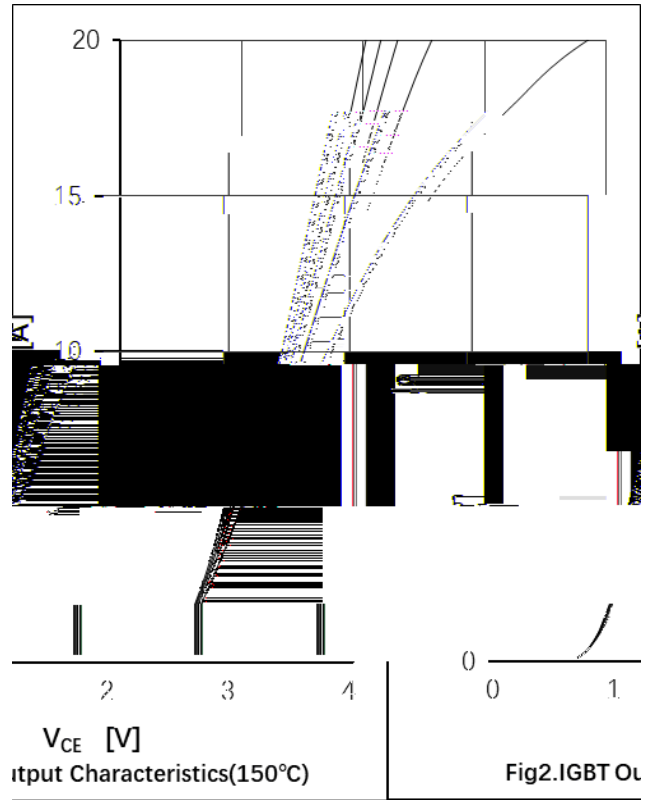
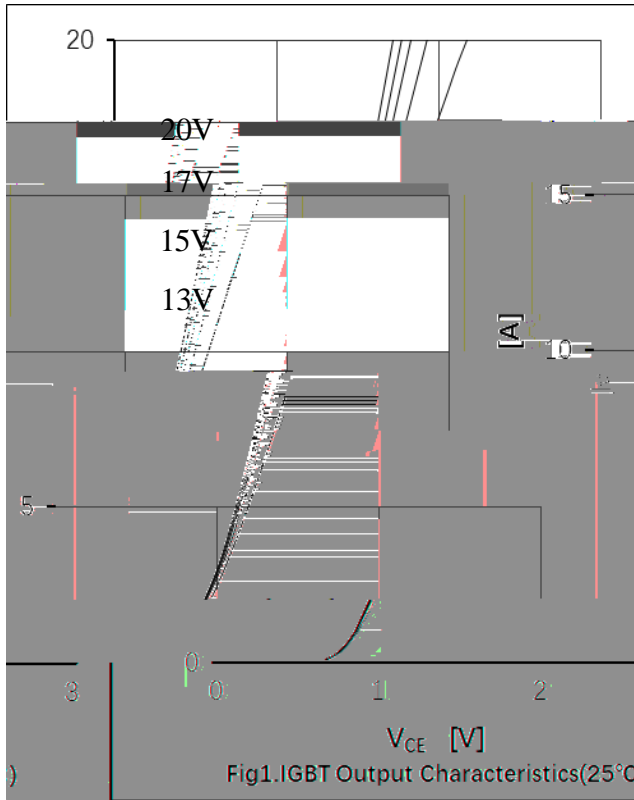
Electrical Characteristics of the DIODE

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic , at T_j= 25						
Reverse Recovery Current	I _{rr}	I _F =10A, V _R =300V, -di/dt= 365	-	6	-	A
Diode reverse recovery time	trr		-	176	-	ns
Reverse Recovery Charge	Q _{rr}		-	0.12	-	uC
Reverse Recovery Energy	E _{rec}		-	0.05	-	mJ
Dynamic , at T_j= 125						

Reverse Recovery Current I_{rr}

I_F=10A,

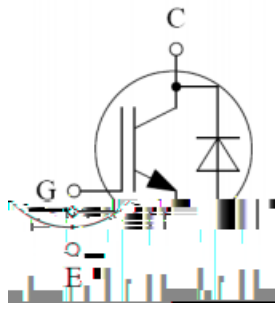
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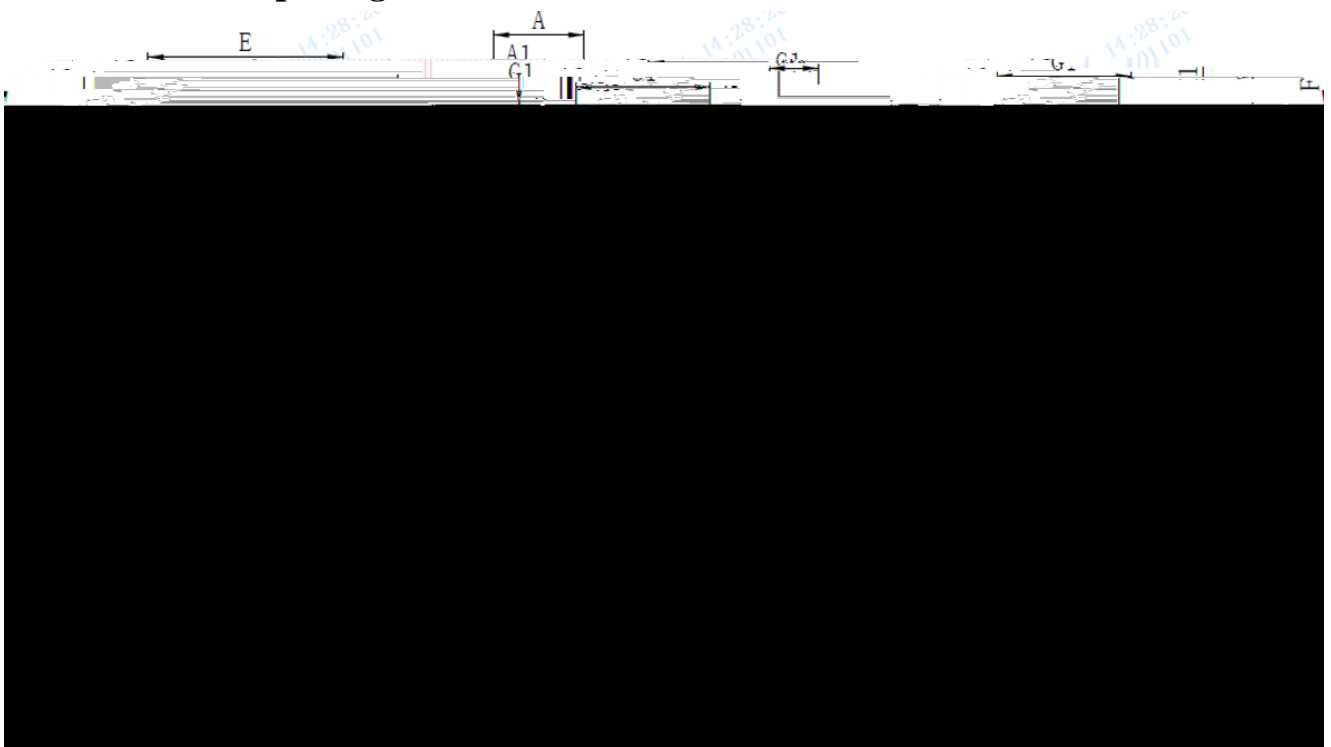
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Package Outline Information

CASE: TO-220F package information



SYMBOL	单位: mm			SYMBOL	单位: mm			SYMBOL	单位: mm		
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.		MIN.	NOM.	MAX.
A	4.40	4.50	4.60	F	10.00	10.16	10.30	Q12	3.30	3.40	3.50
A1	2.41	2.51	2.61	F1	9.94	10.04	10.00	Q1	3.20	3.30	3.40
A2	2.66	2.76	2.86	F2	1.24	1.24	1.24	Q2	9.50	9.60	9.70
A3	1.01RH	1.01RH	1.01RH	F3	1.40	1.40	1.40	Q3	1.50	1.60	1.70
b1	1.18	1.20	1.24	F4	13.80	13.90	14.00	Q4	3.30	3.40	3.50
b2	0.75	0.80	0.85	F5	3.20	3.30	3.40	Q5	3.00	3.10	3.20
b3	1.20	1.30	1.30	F6	6.00	6.00	6.00	Q6	7.00	7.10	7.20
C	0.94	0.94	0.94	F7	15.07	15.07	16.07	Q7	0.61	0.61	0.61
D	15.07	15.07	16.07	F8	2.00	2.00	2.00	Q8	2.50	2.50	2.50
E	3.20	3.20	3.20	F9	2.50	2.54	2.50	Q9	6.50	6.50	6.50
e1	5.00	5.00	5.00	F10	3.00	3.00	3.10	Q10	3.00	3.10	3.10

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