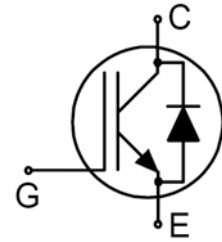


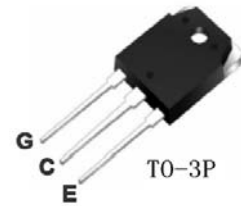
用途/Applications

- ◆ 逆变器/General purpose inverter
- ◆ 变频器/Frequency converters
- ◆ 电磁炉/Induction Heating(IH)
- ◆ 不间断电源/Uninterrupted Power Supply(UPS)



特点/Features

- ◆ 低栅极电荷/Low gate charge
- ◆ 正温度系数/Positive temperature coefficient
- ◆ 低饱和压降/Low saturation voltage
- ◆ RoHS 产品/RoHS product

极限参数/Absolute maximum ratings($T_c=25^{\circ}\text{C}$, unless otherwise specified)

Symbol	Parameter	Rating	Units
V_{CES}	Collector-emitter voltage	1200	V
V_{GES}	Gate-emitter voltage	± 20	V
I_C	Collector current	40	A
	Collector current@ $T_c=100^{\circ}\text{C}$	20	A
I_{CM}	Collector peak current, T_P limited by T_{JMAX}	60	A
I_F	Diode forward current@ $T_c=100^{\circ}\text{C}$	20	A
I_{FM}	Diode maximum forward current	60	A
P_D	Power dissipation($T_c=25^{\circ}\text{C}$)	240	W
	Power dissipation($T_c=100^{\circ}\text{C}$)	96	W
T_J, T_{stg}	Operating junction and storage temperature range	$-55\sim 150$	$^{\circ}\text{C}$
T_L	Maximum temperature for soldering	300	$^{\circ}\text{C}$

热特性/Thermal characteristics

Symbol	Parameter	Rating			Units
		Min.	Typ.	Max.	
$R_{th(j-c)}$	IGBT thermal resistance, junction-case	—	—	0.52	$^{\circ}\text{C}/\text{W}$
$R_{th(j-e)}$	Diode thermal resistance, junction-case	—	—	2.4	$^{\circ}\text{C}/\text{W}$
$R_{th(j-a)}$	Thermal resistance, junction-ambient	—	—	40	$^{\circ}\text{C}/\text{W}$

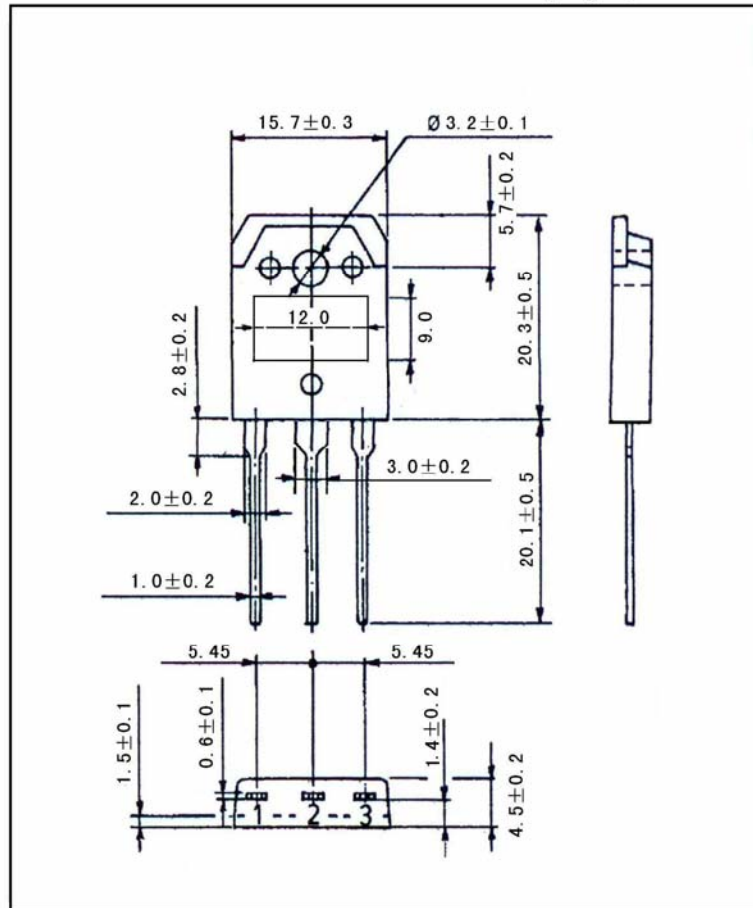
电性能参数/Electrical characteristics (Tc=25℃, unless otherwise specified)

Symbol	Parameter	Test condition	Rating			Units
			Min.	Typ.	Max.	
V_{CES}	Collector-emitter breakdown voltage	$V_{GE}=0V; I_{CE}=250\mu A$	1200	—	—	V
I_{CES}	Zero gate voltage Collector current	$V_{GE}=0V; V_{CE}=1200V$	—	—	1	mA
I_{GES}	Gate-body leakage current	$V_{GE}=\pm 20V; V_{CE}=0V$	—	—	± 250	nA
$V_{GE(th)}$	Gate threshold voltage	$I_C=15mA; V_{CE}=V_{GE}$	3.5	—	7.5	V
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=20A; V_{GE}=15V$	—	2	2.5	V
C_{ies}	Input capacitance	$V_{CE}=25V, V_{GE}=0V, f=1MHz$	—	3030	—	pF
C_{oes}	Output capacitance		—	76	—	
C_{res}	Reverse transfer capacitance		—	125	—	
$t_{d(ON)}$	Turn-on delay time	$V_{CC}=600V, I_C=20A, R_G=10\Omega, V_{GE}=15V, \text{ Inductive Load}$	—	41	—	ns
t_r	Rise time		—	38	—	
$t_{d(OFF)}$	Turn-off delay time		—	206	—	
t_f	Fall time		—	341	—	
E_{on}	Turn-On Switching Loss		—	1	2.1	mJ
E_{off}	Turn-Off Switching Loss		—	1.2	1.5	
E_{ts}	Total Switching Loss		—	2.1	3.6	
Q_G	Total gate charge	$V_{CC}=600V, I_C=20A, V_{GE}=15V$	—	154	224	nC
Q_{G-E}	Gate-emitter charge		—	16	25	
Q_{G-C}	Gate-collector charge		—	56	80	
V_F	Diode forward voltage	$I_F=20A$	—	1.3	2.7	V
T_{rr}	Reverse recovery time	$I_F=20A, di/dt=200A/\mu S$	—	430	481	ns
I_{rr}	Diode Peak Reverse Recovery Current		—	37	60	A
Q_{rr}	Reverse recovery charge		—	0.9	1.1	μC

封装信息/Package information

T0-3P

单位 :mm



引脚: 1.G 2.C 3.E