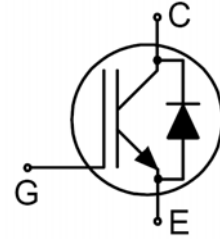


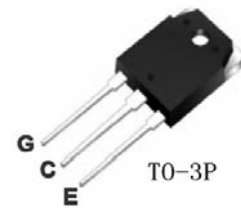
## 用途/Applications

- ◆ 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	$\pm 20$	V
$I_C$	Collector current	50	A
	Collector current@ $T_c=100^\circ\text{C}$	25	A
$I_{CM}$	Collector peak current, $T_P$ limited by $T_{JMAX}$	75	A
$I_F$	Diode forward current@ $T_c=100^\circ\text{C}$	25	A
$I_{FM}$	Diode maximum forward current	75	A
$P_D$	Power dissipation( $T_c=25^\circ\text{C}$ )	312	W
	Power dissipation( $T_c=100^\circ\text{C}$ )	125	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	-	-	0.4	$^\circ\text{C}/\text{W}$
$R_{th(j-e)}$	Diode thermal resistance, junction-case	-	-	2	$^\circ\text{C}/\text{W}$
$R_{th(j-a)}$	Thermal resistance, junction-ambient	-	-	40	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Test condition	Rating			Units
			Min.	Typ.	Max.	
V <sub>CES</sub>	Collector-emitter breakdown voltage	V <sub>GE</sub> =0V; I <sub>CE</sub> =250uA	1200	-	-	V
I <sub>CES</sub>	Zero gate voltage Collector current	V <sub>GE</sub> =0V; V <sub>CE</sub> =1200V	-	-	1	mA
I <sub>GES</sub>	Gate-body leakage current	V <sub>GE</sub> =±20V; V <sub>CE</sub> =0V	-	-	±250	nA
V <sub>GE(th)</sub>	Gate threshold voltage	I <sub>C</sub> =15mA; V <sub>CE</sub> =V <sub>GE</sub>	3.5	-	7.5	V
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =25A; V <sub>GE</sub> =15V	-	2.1	2.5	V
C <sub>ies</sub>	Input capacitance	V <sub>CE</sub> =25V, V <sub>GE</sub> =0V, f=1MHz	-	3430	-	pF
C <sub>oes</sub>	Output capacitance		-	87	-	
C <sub>res</sub>	Reverse transfer capacitance		-	206	-	
t <sub>d(ON)</sub>	Turn-on delay time	V <sub>CE</sub> =600V, I <sub>C</sub> =25A, R <sub>G</sub> =10Ω, V <sub>GE</sub> =15V, Inductive Load	-	42	-	ns
t <sub>r</sub>	Rise time		-	36	-	
t <sub>d(OFF)</sub>	Turn-off delay time		-	224	-	
t <sub>f</sub>	Fall time		-	314	-	
E <sub>on</sub>	Turn-On Switching Loss		-	1.1	2.2	mJ
E <sub>off</sub>	Turn-Off Switching Loss	-	1.3	1.5		
E <sub>ts</sub>	Total Switching Loss	-	2.2	3.6		
Q <sub>G</sub>	Total gate charge	V <sub>CE</sub> =600V, I <sub>C</sub> =25A, V <sub>GE</sub> =15V	-	177	274	nC
Q <sub>G-E</sub>	Gate-emitter charge		-	16	26	
Q <sub>G-C</sub>	Gate-collector charge		-	61	94	
V <sub>F</sub>	Diode forward voltage	I <sub>F</sub> =25A	-	1.5	2.7	V
T <sub>rr</sub>	Reverse recovery time	I <sub>F</sub> =25A, di/dt=200A/μS	-	535	585	ns
I <sub>rr</sub>	Diode Peak Reverse Recovery Current		-	43	85	A
Q <sub>rr</sub>	Reverse recovery charge		-	13	15	uC

