

Electrical Characteristics of the IGBT $T_{vj}=25^{\circ}\text{C}$, unless otherwise noted

Parameter	Symbol	Test condition	Min.	Typ.	Max.	Unit
OFF						
Collector – Emitter Breakdown Voltage	BV_{CES}	$V_{GE} = 0V, I_C = 1mA$	1200	--	--	V
Zero Gate Voltage Collector Current	I_{CES}	$V_{CE} = 1200V, V_{GE} = 0V$	--	--	1	mA
Gate – Emitter Leakage Current	I_{GES}	$V_{CE} = 0V, V_{GE} = 20V$	--	--	100	nA
ON						
Gate – Emitter Threshold Voltage	$V_{GE(TH)}$	$V_{GE} = V_{CE}, I_C = 50mA$	5.0	--	8.5	V
Collector – Emitter Saturation Voltage	$V_{CE(SAT)}$	$V_{GE} = 15V, I_C = 50A, T_{vj} = 25$	--	2.0	2.5	V
		$V_{GE} = 15V, I_C = 50A, T_{vj} = 125$	--	2.3		V
DYNAMIC						
Input Capacitance	C_{IES}	$V_{CE} = 25V,$ $V_{GE} = 0V$ $f = 1MHz$	--	5.25	--	nF
Output Capacitance	C_{OES}		--	170	--	pF
Reverse Transfer Capacitance	C_{RES}		--	115	--	pF
SWITCHING						
Turn-On Delay Time	$t_{d(on)}$	$V_{CC} = 600V, I_C = 50A$ $R_G = 10 \Omega, V_{GE} = 15V$ Inductive Load, $T_{vj} = 25$	--	30	--	ns
Rise Time	t_r		--	60	--	ns
Turn-Off Delay Time	$t_{d(off)}$		--	230	--	ns
Fall Time	t_f		--	145	--	ns
Turn-On Switching Loss	E_{ON}		--	5.6	--	mJ
Turn-Off Switching Loss	E_{OFF}		--	1.9	--	mJ
Total Switching Loss	E_{TS}	--	7.5	--	mJ	
Turn-On Delay Time	$t_{d(on)}$	$V_{CC} = 600V, I_C = 50A$ $R_G = 10 \Omega, V_{GE} = 15V$ Inductive Load, $T_{vj} = 125$	--	30	--	ns
Rise Time	t_r		--	60	--	ns
Turn-Off Delay Time	$t_{d(off)}$		--	215	--	ns
Fall Time	t_f		--	170	--	ns
Turn-On Switching Loss	E_{ON}		--	6.8	--	mJ
Turn-Off Switching Loss	E_{OFF}		--	3.0	--	mJ
Total Switching Loss	E_{TS}	--	9.8	--	mJ	
Total Gate Charge	Q_g	$V_{CC} = 600V, I_C = 50A$ $V_{GE} = 15V$	--			

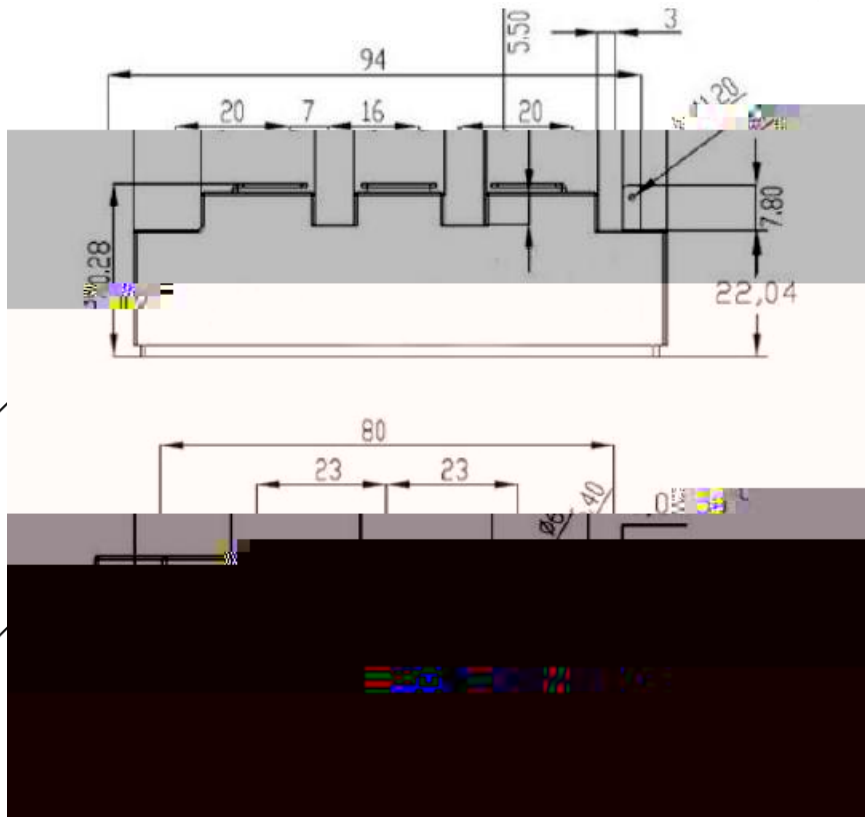
Electrical Characteristics of the DIODE $T_{vj}=25^{\circ}\text{C}$, unless otherwise noted

Parameter	Symbol	Test condition	Min.	Typ.	Max.	Unit	
Diode Forward Voltage	V_{FM}	$I_F = 50\text{A}$	$T_{vj} = 25$	--	2.5	3.0	V
			$T_{vj} = 125$	--	2.6	3.1	
Reverse Recovery Current	I_{rr}	$V_{CC} = 600\text{V}, I_F = 50\text{A}$ $R_G = 10$, $V_{GE} = 15\text{V}$ Inductive Load	$T_{vj} = 25$	--	26	--	A
			$T_{vj} = 125$	--	27	--	
Reverse Recovery Charge	Q_{rr}	$V_{CC} = 600\text{V}, I_F = 50\text{A}$ $R_G = 10$, $V_{GE} = 15\text{V}$ Inductive Load	$T_{vj} = 25$	--	3.2	--	μC
			$T_{vj} = 125$	--	5.0	--	
Reverse Recovery Time	t_{rr}	$V_{CC} = 600\text{V}, I_F = 50\text{A}$ $R_G = 10$, $V_{GE} = 15\text{V}$ Inductive Load	$T_{vj} = 25$	--	250	--	ns
			$T_{vj} = 125$	--	315	--	

Characteristics of the Module

Parameter	Symbol	Test condition	Min.	Typ.	Max.	Unit
Isolation Voltage	V_{ISO}	RMS, $f=50\text{Hz}$, $t=1$ minutes	--	2.5	--	kV
Terminal mounting torque (M5)	--		2.5	--	5.0	N.m
Weight	--		--	155	--	g

Package Outline (Dimension in mm)



Disclaimer

TRinno technology reserves the right to make changes without notice to products herein to improve reliability, performance, or design. The information given in this document is believed to be accurate and reliable. However, it shall in no event be regarded as a guarantee of conditions and characteristics. With respect to any information regarding the application of the device, TRinno technology hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of patent rights of any third party.