

INSULATED GATE BIPOLAR TRANSISTOR WITH
ULTRAFAST SOFT RECOVERY DIODE

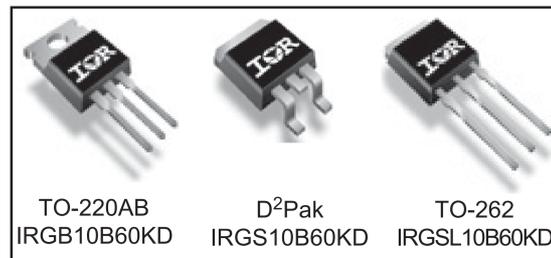
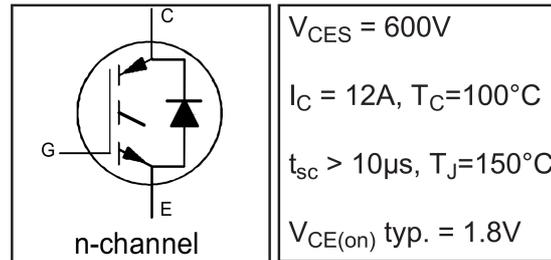
IRGB10B60KD
IRGS10B60KD
IRGSL10B60KD

Features

- Low VCE (on) Non Punch Through IGBT Technology.
- Low Diode VF.
- 10µs Short Circuit Capability.
- Square RBSOA.
- Ultrasoft Diode Reverse Recovery Characteristics.
- Positive VCE (on) Temperature Coefficient.

Benefits

- Benchmark Efficiency for Motor Control.
- Rugged Transient Performance.
- Low EMI.
- Excellent Current Sharing in Parallel Operation.



Absolute Maximum Ratings

	Parameter	Max.	Units
V_{CES}	Collector-to-Emitter Voltage	600	V
$I_C @ T_C = 25^\circ C$	Continuous Collector Current	22	A
$I_C @ T_C = 100^\circ C$	Continuous Collector Current	12	
I_{CM}	Pulsed Collector Current	44	
I_{LM}	Clamped Inductive Load Current ④	44	
$I_F @ T_C = 25^\circ C$	Diode Continuous Forward Current	22	
$I_F @ T_C = 100^\circ C$	Diode Continuous Forward Current	10	W
I_{FM}	Diode Maximum Forward Current	44	
V_{GE}	Gate-to-Emitter Voltage	± 20	
$P_D @ T_C = 25^\circ C$	Maximum Power Dissipation	156	W
$P_D @ T_C = 100^\circ C$	Maximum Power Dissipation	62	
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to +150	$^\circ C$
	Soldering Temperature, for 10 sec.	300 (0.063 in. (1.6mm) from case)	

Thermal Resistance

	Parameter	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Junction-to-Case - IGBT	—	—	0.8	$^\circ C/W$
$R_{\theta JC}$	Junction-to-Case - Diode	—	—	3.4	
$R_{\theta CS}$	Case-to-Sink, flat, greased surface	—	0.50	—	
$R_{\theta JA}$	Junction-to-Ambient, typical socket mount①	—	—	62	
$R_{\theta JA}$	Junction-to-Ambient (PCB Mount, steady state)②	—	—	40	
Wt	Weight	—	1.44	—	g